Skiles, H. Brisbin
72.8 A demonstration
11dpne project
976 implementing a
comprehensive
elementary
nutrition

STATE DOCUMENTS COLLECTION
APR 10 1990
MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

A Demonstration Project Implementing A Comprehensive Elementary Nutrition Education Program In Conjunction with School Food Service Programs and Integrated with Other Curriculum Areas

1974-1976

FINAL REPORT

PLEASE RETURN

Grantee: Dolores Colburg, Superintendent of Public Instruction
Helena, MT 59601

MONTANA STATE LIBRARY
S 372.8 P11dpne 1976 c.1 Skiles
A demonstration project implementing a c
3 0864 00065171 4

A Demonstration Project Implementing A Comprehensive Elementary Nutrition Education Program In Conjunction with School Food Service Programs and Integrated with Other Curriculum Areas

AGREEMENT NO. (12-35-600-170)
FOOD and NUTRITION SERVICE, USDA
September 1, 1974 - February 27, 1976

Project Funded Under Section 6(a)(3)
National School Lunch Act P.L. 91-248

FINAL REPORT
July 31, 1976

Prepared by:
H. Brisbin Skiles, School Food Services Supervisor
K. Ann Ferguson, Nutrition Education Specialist

PLEASE RETURN

Grantee: Office of the Superintendent of Public Instruction
MONTANA
H. Brisbin Skiles

Digitized by the Internet Archive
in 2012 with funding from
Montana State Library

http://archive.org/details/demonstrationpro1976skil

TABLE OF CONTENTS

PAGE

CHAPTER

I CHARACTER OF THE DEMONSTRATION PROJECT 1

Introduction. 1

Project Rationale 2

Project Scope and Objectives. 5

Work Plan 6

II DEMONSTRATION PROJECT METHODOLOGY. 8

OBJECTIVE I 8

Nutrition Education Specialist. 8

Selection of Pilot Schools. 8

Administrators and School Food Manager/Cooks Survey . . . 11

Pupil School Lunch Program Survey 11

Participation 12

Menu Evaluation 13

Food Waste. 14

Nutrition Education Activities. 17

Pre and Post Tests. 17

Nutrition Education Resources 18

OBJECTIVE II. 19

Project Training. 19

Project Training Completed. 20

Nutrition Education School Visits 20

Regional Teacher Workshops. 21

Summer Workshop for Teachers. 22

CHAPTER PAGE

II (continued)

OBJECTIVE III. 23

School Food Manager/Cook Area Workshops. 23

Summer Workshop for Migrant Program's Cooks. 24

Parental Involvement 24

Evaluation Procedures. 25

III RESULTS AND DISCUSSION. 30

Nutrition Education Specialist 30

OBJECTIVE I. 30

Attitudes. 30

Administrators and School Food Manager/Cooks Survey. . . . 31

Pupil School Lunch Program Survey. 34

Comparison of Adult and Pupil Surveys. 35

Participation. 36

Menu Evaluation and Food Waste 36

Pre and Post Tests 38

Nutrition Education Resources. 40

OBJECTIVE II 41

Project Training Completed 41

Nutrition Education School Visits. 42

Regional Teacher Workshops 42

Summer Workshop for Teachers 43

OBJECTIVE III. 49

School Food Manager/Cook Area Workshops. 49

Parental Involvement 49

Statewide Expansion. 50

University Nutrition Education Course. 51

CHAPTER PAGE

III (continued)

Montana Nutrition Council 51

IV SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 53

Executive Summary 53

Conclusions 59

Recommendations 63

APPENDICIES 67

A Descriptive Analysis of Appendices Items 69

Appendix I 74

Appendix II. 91

Appendix III 100

Appendix IV. 111

Appendix V 127

Appendix VI. 165

CHAPTER I

CHARACTER OF THE DEMONSTRATION PROJECT

INTRODUCTION

The Montana nutrition education project was designed to implement a comprehensive nutrition education program in Montana elementary schools, utilizing the school food service as an integral part of that program. Through the employment of a fulltime nutrition education specialist, it was intended that the project would measure the effectiveness of nutrition education in developing positive attitudes about food habits and food waste of pupils and as a result, would determine desirable methods of implementing a statewide nutrition education program applicable to any school in Montana. The program would be comprehensive in scope, flexible for any size school and become an integral part of the school food services program.

The nutrition education specialist would initiate the program within four pilot schools and provide seven area workshops across the state for elementary teachers and school food manager/cooks. The workshops would be followed by the specialist's serving as a consultant, focusing efforts on the four pilot schools to provide expertise and periodic visitations to areas in which the workshops were conducted. Desired results would be increased participation in school food service programs, initiation of acceptable nutrition education programs within classrooms statewide and their integration with school food service programs.

The primary impetus for the submission of the project proposal emanated from the concentrated efforts of the Joint Committee on Nutrition Education to implement a comprehensive nutrition education program. The Joint Committee

is composed of the two state agencies most concerned with and responsible for the nutrition education programs within the state: the Superintendent of Public Instruction and the State Department of Health and Environmental Science. The support of the Montana Nutrition Council is significant to the project since it recognized the importance of a more comprehensive approach to nutrition education at the elementary school level and has concerned itself with the progress of the development of the nutrition education curriculum. The Committee has also conducted surveys and made contact with Montana's elementary teachers to determine the teachers' interest, enthusiasm and desire for assistance in developing meaningful nutrition education programs.

PROJECT RATIONALE

The benefits and desirability of a comprehensive nutrition education program in Montana, as pointed out in the proposed project, are many. As indicated in a 1974 survey among teachers in Missoula, Montana, by the Health Advisory Council, out of 12 health topics considered, teachers ranked nutrition as a leading priority. One hundred sixty-six teachers for grades one through four ranked nutrition second in priority and 187 teachers ranked nutrition as third.

In 1974 a survey, conducted by the Superintendent of Public Instruction on statewide educational needs involving a random sampling of 7,000 adults in Montana, showed that the number two priority was that each student should develop habits and skills necessary to maintain physical fitness and mental health. Nutrition plays a leading role in the promotion of health and the prevention of disease.

Malnutrition among school-age children which results in such problems as obesity, low growth stature, anemia, dental caries, diet deficiencies of vitamins A, C and riboflavin is reported in current national nutrition surveys including the Ten State Nutrition Survey, 1968-70. It is reasonable, therefore, to assume that nutrition problems exist with the school-age child in Montana.

To date there has been no inservice training for elementary teachers in Montana to prepare for the introduction of a comprehensive nutrition education program into the classroom. There is a need for trained resource people in nutrition education at a state agency level to conduct nutrition education workshops for elementary teachers.

National dental surveys state that 98 percent of the American population is affected by dental disease. Sixty percent of the American population receives no dental care. In Montana, there exists a scarcity of dentists. There are 370 dentists in the state with a dentist to population ratio of 1:2,114 as compared to that of the entire United States of 1:1,988.

National and state statistics indicate that the rate of teenage pregnancies is on the increase. Pregnancy during adolescence produces nutritional risk, since additional nutrition demands are made on the caloric and nutrient needs of a pregnant teenager and the growing fetus. Nutritional status is a function of eating habits which are begun early in life. Sound nutrition habits resulting from early nutrition education should have a positive effect on the nutritional status and outcome for the pregnant adolescent.

The recognition of an existing need for more assistance to elementary teachers in nutrition education has resulted in the College of Home Economics

at Montana State University receiving a grant to publish four nutrition education newsletters for elementary teachers. (See Appendix page 101). These publications can be utilized as a complementary resource to the nutrition education curriculum guide developed by the Joint Committee on Nutrition Education. The newletters were sent to about 10,000 elementary teachers.

The Joint Committee on Nutrition Education has functioned for the past fiscal year. It includes the following representation from the Office of the Superintendent of Public Instruction (OSPI) and the State Department of Health and Environmental Sciences (SDH & ES): Supervisor, School Food Services, OSPI; Assistant Supervisor, School Food Services, OSPI; Supervisor of Home Economics Education, who is also a Nutrition Consultant, OSPI; Public Health Nutritionist, SDH & ES; and a Health Educator, SDH & ES. Accomplishments included developing a nutrition education curriculum guide; presentation of a portion of the curriculum material to 30 elementary teachers in one county to field test and evaluate in their classrooms; arranging for inclusion of the material in the Montana School Health Curriculum Guide; reporting progress on the development of the guide to the Montana Nutrition Council (composed of 40 agencies having a vested interest in nutrition); conducted a survey of elementary teachers which indicated an interest in nutrition education workshops of such magnitude that area workshops in nutrition education were scheduled as follows in 1974: August 26 - Havre; August 27 - Great Falls; August 28 - Missoula; August 29 - Kalispell; September 3 - Butte; September 5 - Glendive; September 6 - Wolf Point. Workshops have also been conducted for school food service staffs, including nutrition education as it relates to school food services and how nutrition education can be an integral part of a school's food service program. One committee member talked with elementary teachers in 36 schools regarding their current education activities and only

in a very few instances had there been an organized nutrition education effort at any grade level.

The effectiveness of the Montana Nutrition Council is greatly enchanced as it functions as an advisory committee to the comprehensive nutrition education program in Montana. Its composition assures cooperation between the two agencies most involved in nutrition education in the state: the Superintendent of Public Instruction and the Department of Health and Environmental Sciences. However, without a fulltime nutrition education specialist, it is doubtful that a comprehensive nutrition education program in the school systems can be fully developed, implemented and evaluated. Certainly a framework exists within which the objectives of a comprehensive nutrition education program can be realized if the nutrition education specialist is available. The nutrition education specialist will serve as chairperson of the Joint Committee on Nutrition Education which will become the Joint Advisory Committee on Nutrition Education.

PROJECT SCOPE AND OBJECTIVES

A fulltime nutrition education specialist will be hired to implement a comprehensive nutrition education project in Montana elementary schools, as well as to initiate the program within four pilot schools. The nutrition specialist also will work with elementary teachers statewide through seven area workshops and with food service managers in area workshops. Following the area workshops, the nutrition education specialist will serve as a consultant to focus efforts on the four pilot schools to provide needed expertise and periodically visit areas in which the workshops were conducted. The objectives of the project reflect three factors in the implementation of the

statewide comprehensive program: increased participation in school food services programs, initiation of acceptable nutrition education programs within classrooms statewide and integration of nutrition education programs with school food service programs.

Objectives

1. In four school populations - two having 40 K-6 pupils, typical of approximately 50 percent of elementary schools in Montana with three or less teachers and two schools having 400 K-6 pupils, typical of the other 50 percent of Montana schools as indicated by 1973 statistics - the pupil population should show a positive change in cognitive skills relating to nutrition and improvement in eating habits and food choices by May 1, 1975.
2. By November 15, 1975, 25 percent of all elementary teachers (K-6) in 140 schools participating in school food service programs will have participated in one or more phases of the state nutrition education project and will have initiated a nutrition education program in their classrooms acceptable to the nutrition education specialist.
3. By November 15, 1975, 50 percent of the school food service manager/cooks in those schools in which elementary teachers are participants in this nutrition education project will have done at least one activity cooperatively with the elementary teachers in their schools.

WORK PLAN

The work plan designed to meet the objectives of this project is as follows:

1. Materials in nutrition education will be developed or modified for teachers, pupils, school food service personnel and parents in the four pilot schools.
2. Inservice training for the nutrition education project will be conducted for pupils, teachers, school food service personnel and parents of the four pilot schools.
3. School food service menus being served during the year in the pilot schools will be discussed correlating nutrition education activities and experiences.
4. Nutrition education consultation on the nutrition education project will be provided the pilot schools.
5. Seven area workshops will be conducted with elementary teachers across the state to introduce the nutrition education project.
6. Periodic visitations will be made by the nutrition education specialist to the seven areas for the purposes of consultation and support.
7. A one week Nutrition Education Workshop will be conducted at a Montana university. Evaluation procedures will be developed to determine what percentage of elementary teachers involved have developed an acceptable nutrition education program.
8. Fall area workshops will be conducted across the state to introduce the nutrition education project.
9. Joint consultation will be held with elementary teachers and school food service manager/cooks whenever possible during the periodic visits by the nutrition education specialist in each area.
10. The nutrition education specialist will provide alternative suggestions to the school food service manager/cooks regarding nutrition education activities which could be conducted cooperatively with their respective elementary teachers.

CHAPTER II

DEMONSTRATION PROJECT METHODOLOGY

OBJECTIVE I

Nutrition Education Specialist

K. Ann Ferguson was employed as a fulltime nutrition education specialist to supervise the nutrition education project. In addition to this supervisory position, other duties are to develop or modify instructional materials in nutrition education for pupils, teachers, school food service personnel, school administrators, and parents; to develop tools for evaluation of pupil participation, food acceptance, and food waste by pupils participating in the nutrition education project; to spearhead the implementation of a total comprehensive nutrition education program; assume responsibility for evaluating its effectiveness and to organize and conduct nutrition education workshops at state and/or local levels with elementary teachers, school food service manager/cooks and other school food service personnel. Additionally the specialist will function as a nutrition education consultant in all aspects of the nutrition education project with teachers, school food service manager/cooks and pupils; develop and prepare appropriate records and reports for the nutrition education project; attend annual American School Food Service Association meetings and other professional meetings regarding nutrition education programs in other states; function as chairperson of the Joint Advisory Committee on Nutrition Education and serve as a member of the Montana Nutrition Council.

Selction of Pilot Schools

Four pilot schools were selected to participate in the nutrition educa-

tion demonstration project on the basis of pupil population being typical of approximately 50 percent of Montana's elementary schools, participation in the National School Lunch Program, desire of administrators and teachers to participate and time made available for the nutrition education project by school personnel. Other factors that would influence the project became apparent during visitations by the nutrition education specialist after the pilot schools were selected. These factors included: attitudes of the superintendent, principal, teachers and school food manager/cooks; basic economy of the community; availability of eating establishments other than school lunch for the pupils; geographic location of the community; limited numbers of minority pupils and the type of lunch menu planned by the school food manager/cooks. A comparision of the pilot schools (see Chart No.1,Appendix page 92) point out these factors.

In School "A" elementary teachers were enthusiastic about the nutrition education project. The principal approved the school's participation in the pilot project and thoroughly cooperated although he had never eaten in the school lunch program in that school. The school food manager/cooks thought they were performing the best possible job, but were not aware of food waste by pupils. They believed the pupils were satisfied customers.

School "A" is located in a rural community of 250 people in the northwest part of Montana. The economy is stable, but below the national average. Total school population is 136 of which 64 are elementary and 72 high school (some bussed) including one minority pupil. The elementary school is staffed with six teachers and two school food manager/cooks. Kitchen facilities are adequate and the menus consist mainly of casseroles with few fresh fruits and vegetables offered. No popular teen foods are featured. There is excessive food waste.

In School "B" the superintendent, principals and teachers desired a change in their school food service programs and believed nutrition education would effectively implement this change. The school food manager/cooks felt few avenues of change were available.

This school is located in a rural town of 799 population in southeastern Montana and is inhabited by well-to-do ranchers who influence the stable economy. The total school population including bussed pupils is 534 of which 280 are elementary and 254 high school. There are 19 elementary teachers with two school food manager/cooks who work with adequate kitchen facilities serving menus of mainly casseroles and soups which meet the minimum Type A requirements. Few and a limited variety of fresh fruits and vegetables are served. Some baking is done, but no popular teen foods are offered. There is too much food waste.

School "C" had enthusiastic support of its total staff including the superintendent, principals, teachers and school food manager/cooks. This school is located in a rural agricultural community in northwestern Montana with a population of 3,111. The economy is stable. The total school enrollment including bussed pupils is 946 of which 582 are elementary and 364 high school with few minority pupils. There are 32 teachers in the elementary school and four school food manager/cooks. The kitchen equipment is old and in need of updating. Some new equipment was aquired by the end of the project. The menu consisted mainly of casseroles and a limited variety of fresh fruits and vegetables were offered. Many baked items were served but no popular teen foods were made available. There was too much food waste.

Teachers in School "D", who desired to teach nutrition education,

participated in the project. One elementary school was involved in nutrition education because three teachers scheduled it for their classes. The school food manager/cooks were neither for nor against the project.

School "D" is a suburb town of 1,651 people in midwestern Montana. It is a town with one main industry. The school population is 552 elementary pupils with no high school and a few minority pupils. There are nine teachers and two school food manager/cooks on the staff. Kitchen facilities are very restricted for the size of the program. Menus consist mainly of casseroles. Few and a limited variety of fresh fruits and vegetables are served, little baking is done, popular teen foods are not included and there is too much food waste.

The selection of the control groups for the project was within each pilot school. For example, one-half a grade was involved and the other half was not involved in nutrition education.

Administrators and School Food Manager/Cooks Survey

A survey of each pilot schools' principals and school food manager/cooks was taken to gain added insight into problems in school food service programs, the number of participants, nutritional information, variety of menus and food preferences of pupils. The "School Lunch Evaluation" form used for this survey is found in the Appendix page 75.

Pupil School Lunch Program Survey

A pupil survey form (see Appendix page 79)was used to determine eating habits; pupil participation in school lunch consumption and planning; attitudes toward the physical lunchroom facilities and nutritional awareness of pupils in pilot schools. The survey was very extensive and teachers found it time

consuming to administer. As an example, teachers of grades one through three had the pupils respond to one page per day. For this reason some pilot schools did not have the first three grades answer this survey.

Participation

Chart No. 2, "Enrollment and School Lunch Participation" shows the enrollment and school lunch participation of the pilot schools:

ENROLLMENT AND SCHOOL LUNCH PARTICIPATION

	Enrollment			% of Participation			No. of
School	Elem.	H. S.	Total	Sept-'74	May-'75	Sept-'75	Teachers
A	64	72	136	80%	73%	78%	6
B	280	254	534	60%	58%	59%	19
C	582	364	946	25%	30%	34%	32
D	346 206	No H.S.	552	31%	36%	34%	9
Totals	1,478	690	2,168	38%	41%	43%	66

Chart No. 2

The main variable in participation is decreasing enrollment. Participation in School "C" showed the greatest increase due to total school involvement coupled with a desire and a committment to increase school lunch participation.

Statistical data received by the state school food services office does not delineate participation by grade level. The standard state form used to survey participation provides only for the total number of pupils with no differentiation of grade level. The nutrition education project was only implemented in grades K-6, consequently, the above figures do not totally

verify the effect of nutrition education on school lunch participation.

Menu Evaluation

A variety of techniques were used to evaluate school menus. The number of continuous menus appraised was based on the length of the menu cycle (two weeks) in these particular schools. Using the "Daily Food Record" form, which is included in the Appendix as page 82, the nutrient content of each food item in a day's menu was calculated by the nutrition education specialist.

The nutrition education specialist and school food manager/cooks discussed the menus considering: pupil suggestions for menu improvement based on the pupil survey (see Appendix page 79),nutrient content of the menus, school facilities, United States Department of Agriculture (USDA) donated foods and personal preferences of the school food manager/cook. Other items of consideration were color, form or shape, flavor, texture and temperature. The "Menu Evaluation" form is page 83 in the Appendix. The menus were evaluated on the basis of a Type A school lunch which is one-third of a 10 to 12 year old's nutritional requirements.

The school food manager/cooks pointed out that they found the foods least liked by the pupils were casseroles or soup and sandwich meals even though they were Type A lunches. "Least-liked meals" were often delinquent in meeting the Recommended Dietary Allowance (RDA) requirements of these nutrients: calcium, niacin, iron, thiamin, vitamins A and C and calories as evaluated by the nutrition education specialist. In addition to a nutrient evaluation, "least-liked foods" were evaluated on appeal such as: flavor, temperature, texture, and color (see Appendix page 83) to promote improvement in menus and, consequently, pupil acceptability.

Food Waste

A form was developed to determine which particular food items were discarded in each day's menu rather than the actual quantity of food wasted by weight. The form also indicated if a total or partial serving was discarded and whether an elementary or high school pupil rejected the food (see Appendix page 84).

Following is a list of food items served in the pilot schools during a two week period which was the same as the menu cycle. The first column "Times Served" states how many times an item was served in any of the four pilot schools. The columns "Partial" and "Full" under "Number Servings Discarded" is self-explanatory. "Partial" and "Full" are also divided into "Elementary", "High School" and "Total" columns. Also self-explanatory are the last two columns.

Food Item	Times Served	Number Servings Discarded Partial Elem	HS	Tot	Full Elem	HS	Tot	Total Number Served	Percent Waste
Main Dish									
Baked Beans and Wieners	1	5	1	6	4	0	4	99	10%
Barbecued Burger	1	25	3	28	4	0	4	344	9%
Beef 'n Noodles	1	10	11	21	10	32	42	238	26%
Cheeseburger	1	45	5	50	0	0	0	368	13%
Chicken Fried Steak	1	13	11	24	0	0	0	244	9%
Chicken Pot Pie	1	3	2	5	1	0	1	109	5%
Chiliburger	1	28	8	36	2	4	6	304	13%
Corn Dog	1	22	18	40	0	0	0	222	18%
Fish Sticks	3	73	7	80	10	0	10	458	19%
Hamburger Casserole	1	27	12	39	2	0	2	212	19%
Hamburger Chop Suey	1	63	21	84	6	3	9	219	42%
Macaroni and Cheese	2	20	4	24	5	0	5	431	6%

Food Item	Times Served	Number Servings Discarded						Total Number Served	Percent Waste
		Partial			Full				
		Elem	HS	Tot	Elem	HS	Tot		
Meat Loaf	2	32	3	35	4	0	4	428	9%
Pigs in a Blanket	1	36	5	41	3	0	3	350	12%
Pizza	1	6	1	7	0	0	0	98	7%
Sloppy Joe	2	25	2	27	5	0	5	263	12%
Spanish Rice	1	35	4	39	9	0	9	332	14%
Stew	3	87	41	128	8	4	12	319	44%
Tuna Casserole	3	73	18	91	10	4	14	668	15%
Tuna and Toasted Cheese Sandwich	1	3	1	4	3	0	3	92	7%
Turkey a-la-king	1	31	3	34	9	0	9	315	13%
Vegetables									
Asparagus	1	26	11	37	10	14	24	263	23%
Carrots - cooked	1	0	0	0	3	0	3	238	1%
Carrot and celery sticks	2	5	0	5	0	0	0	696	1%
Corn	2	16	5	21	15	6	21	403	10%
Green Beans	4	45	22	67	26	16	42	671	16%
Peas	2	19	1	20	1	0	1	795	2%
Potatoes	2	8	1	9	1	0	1	95	10%
Sweet Potatoes	1	0	0	0	0	0	0	315	0%
Salad									
Cheese and Pea	1	31	37	68	3	0	3	222	32%
Coleslaw	1	15	0	15	0	0	0	359	4%
Fruit - mixed	1	6	7	13	3	4	7	304	6%
Jello	3	11	21	32	6	9	15	462	10%
Tossed	2	11	0	11	4	0	4	95	15%

Food Item	Times Served	Number Servings Discarded Partial Elem	Partial HS	Partial Tot	Full Elem	Full HS	Full Tot	Total Number Served	Percent Waste
Bread									
Bread - slice	7	21	20	41	6	18	24	1473	4%
Buns	2	27	17	44	5	5	10	567	9%
Crackers	1	0	11	11	3	1	4	227	7%
Dessert									
Applesauce	2	5	0	5	3	1	4	208	4%
Apricots	1	3	2	5	11	8	19	219	11%
Brownie	1	0	0	0	1	2	3	263	1%
Cake - chocolate	1	0	5	5	1	0	1	103	5%
white	3	9	9	18	1	0	1	548	3%
Cherry Cobbler	1	0	2	2	3	32	35	238	15%
Orange Section	6	19	0	19	12	0	12	603	5%
Peaches	1	4	0	4	0	0	0	92	4%
Pears	2	5	3	8	4	1	5	338	3%
Pudding - chocolate	1	2	0	2	1	0	1	105	3%
butterscotch	1	3	2	5	2	1	3	95	8%
Pumpkin Squares	1	4	2	6	2	0	2	92	8%
Other									
Butter	8	1	7	8	9	34	43	992	5%
Milk	29	24	8	32	18	2	20	6556	1%
Peanut Butter	1	2	2	4	4	10	14	240	7%

Previous to the actual survey, K. Ann Ferguson visited each school to demonstrate the surveying procedure. This survey was conducted by the principal or a high school student.

After the survey, the nutrition education specialist and the school food manager/cooks discussed various methods to reduce the amount of food waste. These methods were extracted from the information provided by the survey. Some of the suggested techniques for eliminating food waste were: to eliminate serving an item that was excessively wasted, to try another method of preparation, to change the combination of foods served, to purchase a better quality food product, to listen more critically to pupils' comments, to do more merchandising of school lunch foods and to try a cooperative nutrition education program with the teachers and other school staff.

Nutrition Education Activities

Nutrition education activities were incorporated into all aspects of the project such as: pilot school selection, surveys, menu evaluation, training, resources, supervisory assistance visits to schools and Montana's future nutrition education needs.

A variety of nutrition education activities were attempted by the nutrition education specialist through the nutrition education project. Some of these were: follow-up of surveys, development of lesson plans, acquiring and evaluating resource material and distributing various types of nutrition education information and resources to teachers and school food manager/cooks.

Pre and Post Tests

A pretest was designed for K-6 pupils and was concerned with specific nutritional information. The posttest retested the same items with the same pupils. Items tested related to the concepts and behavioral objectives in the Montana Nutrition Education K-6 Curriculum Guide (see Appendix page 166). The questions included information taught at all K-6 grade levels. A copy

of the test, as well as a revised edition, is included in the Appendix as pages 85 through 87.

The test was short in length so it would not involve much class time. Most of the teachers corrected their pupils' tests and then each pilot school's tests were forwarded to the nutrition education specialist for totaling, correlating and evaluating.

Nutrition Education Resources

Many different resources served to supplement the information available in the Office of the Superintendent of Public Instruction. The state office materials available were primarily the Nutrition Education K-6 Curriculum Guide, films and school food services office information. To supplement this, the following were contacted: local and national commercial film outlets; Food and Nutrition Information and Materials Center, National Agricultural Library; other educational agencies such as: State Department of Health and Environmental Sciences, Cooperative Extension and the Migrant Program; special interest groups such as: the Porkettes, Cowbelles, American Dairy Association, Montana Stockgrowers and Montana Home Economics Clubs.

Local people such as dietitians, county extension agents, parents and businesspersons, in the communities were a valuable source of information to the schools. They contributed their professional expertise, their knowledge of local history and their time and efforts for furthering the education of pupils in the school system.

The predominate committee promoting and supporting nutrition education in Montana is the Montana Nutrition Council. This Council is a valuable resource facility because the participants are representative of agencies, groups and

individuals throughout the state. The members represent such groups as: American Dairy Association; county Children and Youth Programs; state and county agents of the Cooperative Extension Service; Coordinator of the State Office of Economic Opportunity; State Department of Health and Environmental Sciences; Department of Institutions; Department of Social and Rehabilitation Services and the Division Director of American Red Cross. Other groups represented are the Farmers' Home Administration; Farmers' Union; Maternal and Child Health Programs often referred to as Women, Infants and Children (WIC); the Montana Division of American Association of University Women; Montana Medical Association; Montana Pork Producers; Montana Stockgrowers; Montana State Department of Agriculture and the school food services program of the Office of the Superintendent of Public Instruction.

Additional groups represented on the Montana Nutrition Council are the Porkettes; School District's School Food Supervisors; United States Department of Agriculture, Food and Nutrition Service, Food Stamps; United States Public Health-Indian Health; University of Montana and Montana State University, Colleges of Home Economics; University School of Nursing; Veterans' Hospital Dietitian; Wheathearts and the Wheat Research and Marketing Commission.

OBJECTIVE II

Project Training

A major concern of elementary teachers presently involved and those desiring to become involved in nutrition education is a lack of training. A course in health and nutrition is not required for certification of an elementary teacher in Montana. Teachers are usually encouraged to teach health in the elementary grades by their principals, however.

Since school districts in Montana determine their own curricula within accreditation standards and elementary teachers often design health curricula, no matter what their areas of specialties, it was determined that the nutrition education curriculum be based on behavioral objectives. The type of guide desired by the teachers became known through opinions expressed to the Office of the Superintendent of Public Instruction.

In addition to the guide, there have been cooperative planning and program presentation with other subject area supervisors in the Office of the Superintendent of Public Instruction. The intent is to have nutrition information included in guides and training programs for multiple subject areas. Some of the presentations were for the kindergarten teachers, migrant personnel, health and physical education staffs, school nurses and school food manager/cooks.

Project Training Completed

A variety of methods have been used for inservice training. Included in these methods are:

1. Individual contacts during supervisory assistance visits by the nutrition education specialist and state school food services staff,
2. Eight regional workshops held before schools start in the fall (A copy of these programs is included in the Appendix as pages 112 and 113 .),
3. One and one-half day summer workshop held at a university for credit (see Appendix page 116 ,for the course content),
4. Group training for all teachers in an individual school.

Nutrition Education School Visits

Approximately every two months the nutrition education specialist visited the four pilot schools to observe the amount of progress, and to offer assist-

ance and encouragement. An exception was in the summer when schools were not in session. The time lapse between visitations of the specialist was a result of the geographic distance between pilot schools, the unpredictability of Montana weather and the teacher's request for time to develop and present plans between visits.

During the early part of the nutrition education project the visits were primarily for pilot school staff training to suggest various ways to use the Nutrition Education K-6 Curriculum Guide and adapt it to their specific school and teaching situations. An important function of each visit was to keep the administrators informed as to the progress of the nutrition education project. Teachers and classrooms were visited, activities were discussed and plans were developed for a full years school nutrition program instead of a brief three week period.

Regional Teacher Workshops

The Office of the Superintendent of Public Instruction sponsored in 1974, seven, and in 1975, nine, regional workshops for teachers and administrators. In 1974 the main objectives of the 90 minute nutrition education session were to disseminate the Nutrition Education K-6 Curriculum Guide, explain the need for nutrition education in Montana and offer the services of the nutrition education specialist to teachers throughout the state. Also, these workshops stressed cooperation between school food manager/cooks and teachers in planning and implementing nutrition education activities in schools.

In 1975, two 90 minute nutrition education sessions were offered at the regional workshops in each area. One session was designed specifically for kindergarten teachers, since public kindergartens have recently been instituted

in Montana schools. How to determine student and teacher attitudes toward food and nutrition were emphasized in this session. An outline of the program content and an example of the information sheets are included in the Appendix as pages 113 and 88.

The objectives of 1975's two 90 minute nutrition education sessions were more numerous than in 1974:

1. To make teachers aware of the importance of nutrition education,
2. To have administrators and teachers be aware of state staff nutrition education personnel,
3. To supply teachers with some methods for teaching nutrition education,
4. To inform teachers of school food services programs.
5. To offer teachers an opportunity to share ideas and experiences related to nutrition education,
6. To have teachers develop a feasible nutrition education project for the school year,
7. To make teachers aware of available resources,
8. To have a follow-up plan.

Summer Workshop for Teachers

A one and one-half day Nutrition Education Workshop was held on June 12 and 13, 1975, at the University of Montana. This was in conjunction with a one day statewide Nutrition Conference sponsored by the Montana Nutrition Council. This workshop was offered mainly to elementary teachers for one credit. A stipend was offered to see if defraying the cost of some expenses would encourage participation. This was successful, to some extent, as 25 teachers participated.

A Home Economics Food and Nutrition Professor, Mary K. Peryam, of Mon-

tana State University, was the instructor. K. Ann Ferguson, nutrition education specialist, taught some topics such as: an explanation of the school food services programs, demonstrations on how to present a classroom snack as a learning experience, food preparation and the use of a variety of visual aids.

A copy of the complete program for the Nutrition Education Workshop can be found as page 116 in the Appendix. Also included in the Appendix as page 118 and 119 are these: the letter sent to county superintendents and elementary principals announcing the workshop and the application form used to enroll in the workshop.

Each participant was to develop a lesson plan applicable to a particular grade level and school situation. A variety of innovative lesson plans were developed on topics such as: creative writing and speech using adjectives in relation to food; a five-year-old's "World of Food" through identification and classification of foods; the Basic 4; nutrition and exercise; nutrition for bones and teeth; a unit on "Your Body and Growth" relative to nutrition, health and science; food preferences as a basis of nutrition for seventh, eighth and ninth grade pupils; nutrition labeling for junior high pupils and food purchasing based on nutrition labeling and Basic 4 knowledge. Specific lesson plans can be found in the Appendix as pages 128 through 163.

OBJECTIVE III

School Food Manager/Cook Area Workshops

Inservice training was held in seven areas of the state for school food manager/cooks. These one day regional workshops for school food manager/cooks were expanded to include more nutrition and nutrition education. Subject matter ideas stressed cooperative nutrition activities between elementary

teachers and school food manager/cooks. Other ideas stressed were: joint activities to acquaint pupils with a greater variety of fruits and vegetables, updating the school menus to include more popular food items and more vegetables and fresh fruits were re-emphasized. The emphasis in 1975 was to have school lunch programs serve Bicentennial menus and do related classroom activities. Such menus can be found in the School Foodservice Journal with correlated activities included. An example of such a menu and activities is "Thanksgiving Day, 1621" which can be found in the Appendix as page 106.

In 1974, 377 school food manager/cooks attended regional workshops and in 1975, 277 for a total of 654 or 60 percent of those eligible to attend.

Summer Workshop for Migrant Program's Cooks

In addition to workshops for school food manager/cooks, a yearly one-day workshop was held for the summer Migrant Program's cooks. All cooks for the program are required to attend. Since the same people come each year, a continuing program is being offered which builds on previous knowledge and experience. The program included preparation of a lunch including a Mexican-type dish; basic nutrition and review; menu planning especially for vitamins A and C, and iron; sanitation and keeping records.

K. Ann Ferguson made follow-up visits to various sites each year to give additional training; reviewed all situations in which children receive food, i.e. day care, nursery, breakfast, lunch, snacks, picnics; become acquainted with the kitchen situations, arrangements, equipment and review the records.

Parental Involvement

Included in regional and summer nutrition workshops were techniques

explaining how to involve parents in nutrition education. Pilot school involvement methods encompassed such projects as: a mother helping pupils prepare a spaghetti luncheon; parents eating school lunch with their children during National School Lunch Week; a teacher requesting parents to have their children eat a breakfast for one month which included milk, fruit or juice, bread and/or cereal, and possibly some protein; parents supplying food for some tasting parties; and parents supplying magazines for pictures to be used in activities such as bulletin boards, posters, flash cards, booklets relating nutrition to the five senses and menu planning.

Evaluation Procedures

Objective 1: "In four school populations, two having forty K-6 students - typical of approximately 50 percent of the elementary schools in Montana, i.e., three or less teachers, and two schools having 400 K-6 students - typical of the other 50 percent of Montana schools, as indicated by 1973 statistics, the student population should show a positive change in cognitive skills relating to nutrition and improvement in eating habits and food choices by May 1, 1975."

The evaluative specifications for Objective 1 are as follows: average daily participation records will be used to determine if, by May 1, 1975, a 20 percent greater increase in Type A lunch participation occurs in the schools where pupils, teachers, school food service personnel, and parents have participated in the nutrition education program as compared to less than five percent increase in the control situations having similar populations. Food waste studies will be conducted before the implementation of the program and following the program, based upon a Type A meal having a traditionally

low acceptance with that school population. A decrease of 25 percent food waste would be demonstrated as measured by a checklist of food items for that menu. Pre and post tests will be developed and administered at every grade level. By the completion of the nutrition education program, May 1, 1975, over 50 percent of the schools' population will have a grade of 80 percent or better on the post test.

In regard to the major activities outlined in the Work Plan on pages seven and eight of this report, the evaluative specifications for plans one through four will be: to determine by pre and post tests if the prepared instructional materials are appropriate; to conduct a pretest for nutrition knowledge in pilot and control grades; to evaluate menus to make sure that they meet Type A requirements and are typical of those served regularly; to tabulate pupils participating in Type A lunch programs in schools where the project is conducted; to observe food waste and food acceptance by pupils during the control period; for pupils to write a one week's Type A lunch menu following the two week control period; and to conduct posttests on nutrition knowledge of pupils in the pilot and control grades.

Procedures for carrying out the evaluative specifications for objectives and major activities for Objective 1 are located in Chapter II of this report on pages 25 and 26. Discussion of the results for the above is to be found in Chapter III.

Objective 2: "By November 15, 1975, 25 percent of all elementary teachers (K-6) in 140 schools participating in school food services programs will have participated in one or more phases of the state nutrition project and will have initiated a nutrition

> education program in their classrooms acceptable to the nutrition education specialist."

The evaluative specifications for Objective 2 are as follows: the number of elementary teachers (K-6) participating in fall area workshops will be totalled and determined as to what percentage this is of total teachers who could participate in the program. A record will be made of the elementary teachers contacted through periodic visits by the nutrition education specialist to schools in the seven areas for the purpose of consultation and support of ongoing programs. Within each area, the nutrition education specialist will contact one group of teachers who have not attended a workshop. This will be accomplished between October 1, 1974 and April 1, 1975. Thirty-five percent of the teachers attending the fall 1974 workshops will participate in the one week 1975 Summer Nutrition Education Workshop at a Montana university. By the end of this intensive workshop, each teacher will have developed a nutrition education program plan for the 1975-76 school year. By October 15, 1975, the nutrition education specialist will have determined what percentage of the elementary teachers have developed an acceptable nutrition education program.

In evaluating Work Plan items number five through eight, as listed on page seven, records will be kept of teachers participating, schools represented and schools having school food service programs. Workshops will be evaluated by participants. Records will be kept of periodic visits of the nutrition education specialist indicating teachers visited, schools represented and schools having school food service programs. Each teacher participating in the nutrition education workshop will develop a nutrition education plan for the 1975-76 school year.

Procedures for carrying out the evaluative specifications for objectives and major activities for Objective 2 are located in Chapter II of this report on pages 27 and 28. Discussion of the results of the above is to be found in Chapter III.

Objective 3: "By October 15, 1975, 50 percent of the school food service manager/cooks in those schools in which elementary teachers are participants in this nutrition education project will have done at least one activity cooperatively with the elementary teachers in their schools."

The evaluative specifications for Objective 3 are as follows: by October 15, 1975, 50 percent of the school food service manager/cooks in those schools in which elementary teachers are participating in this nutrition education project will attend at least one area workshop. By the same time, 50 percent of the school food service manager/cooks will have been involved in joint consultation with selected teachers during the periodic visits made by the nutrition education specialist to each of the areas. Also by October 15, the nutrition education specialist will have received confirmation that 50 percent of the school food service manager/cooks will have participated in at least one activity cooperatively with their respective elementary teachers.

In evaluating Work Plan items nine and ten, as listed on page seven, records will be kept indicating school food service personnel participating in the workshop. School food service personnel will evaluate the workshops. Records will be kept of periodic visits showing school food service personnel participating in nutrition education programs and schools they represent. Confirmation will be made that 50 percent of the school food service manager/cooks have participated

pated in at least one nutrition education activity with their respective elementary teachers.

Procedures for carrying out the evaluative specifications for objectives and major activities for Objective 3 are located in Chapter II of this report on pages 28 and 29. Discussion of the results of the above is to be found in Chapter III.

CHAPTER III

RESULTS AND DISCUSSION

Nutrition Education Specialist

As a result of the nutrition education project, the nutrition education specialist will become a permanent position within the Office of the Superintendent of Public Instruction in the school food services program. The job description (see page eight of this report) expanded from a nutrition education project orientation to involve other numerous nutrition education concerns. Some of the areas emphasized are: improvement in the nutrient content of school breakfasts and lunches planned by school food manager/cooks; inclusion of nutrition as a part of a comprehensive health education curriculum; develop and implement teacher training programs in nutrition education; serve as an advisor on various nutrition related committees; offer supervisory assistance to school food services programs in schools; implement nutrition education in schools; evaluate nutrition education resources such as films, audio-visual aids, visual aids, reference books and textbooks using the criteria set down by the Society for Nutrition Education and the School Foodservice Journal; coordinate nutrition education efforts among cooperating agencies; develop a cultural nutrition program and attend national meetings pertinent to the job.

OBJECTIVE I

Attitudes

Perhaps attitudes have the most effect on the success or failure of a nutrition education program in a school because food often has emotional associations for individuals. Personnel involved in nutrition education

need to have knowledge of their personal attitudes toward food and nutrition as this affects their effectiveness in teaching nutrition. The "My Food Attitudes" form (see Appendix page 88 was used for self-realization of food attitudes). The form was also designed as a discussion initiator for use in the classroom.

Attitudes of the teachers, principals and school food manager/cooks were instrumental in the success of the project in the four pilot schools. These attitudes are discussed on pages 9 through 11 of this report.

Administrators and School Food Manager/Cooks Survey

A synopsis of the nutrition education project's survey of the pilot schools' principals and school food manager/cooks follows:

1. Seldom were problems mentioned, but the main concern was poor kitchen facilities.
2. Administrative attitudes toward the school lunch program were, at best, cooperative or, at least, tolerant.
3. The school lunch was considered a child feeding program, yet, a part of the total education system. The school lunch cafeteria could be used in the nutrition education program for food demonstrations, socializing, consumer purchasing and other cooperative classroom activities. Responsibilities of the school food manager/cooks were to be those of food service manager/cooks and a part of the education process.
4. Lunch periods ranged from 30 to 45 minutes.
5. A prelunch count was considered valuable but usually inaccurate due to a 5 to 50 meal count variance. The number of pupils served daily

was less than 100 to slightly over 300.

6. The number of teachers eating in school lunch programs ranged from 5 to 30.

7. Pupils with specific diets numbered less than 10 in each school with the main diets being for weight control or diabetes. On the average there were no menu adjustments.

8. Menus were published daily or weekly or not at all. To be published meant the menu was taped on the wall at the start of the serving line, printed in the city newspaper and/or announced on the radio, but none of the schools sent the menus home. Menu cycles were short, ranging from one to three weeks. According to the adults surveyed, the meals averaged three colors, three or more flavors, soft and crisp textures, hot and cold temperatures, with most of the popular teen food served and new food items introduced occasionally. A variety of foods from the Basic 4 were included daily.

9. In this survey, participants indicated no need for a morning snack or breakfast program, but if offered, the program would become the responsibility of the school food manager/cook.

10. According to this survey of adults, the food items most preferred by the pupils in their schools are chicken, fish sticks, french fries, ham, hamburgers, lasagna, pizza, sandwiches, spaghetti, tacos, turkey and wieners.

11. Specific food items liked by pupils as mentioned in the adult survey are:

    Casseroles - chilimac, lasagna, macaroni and cheese, shepherds' pie, tuna

    Fresh vegetables - carrots, celery, lettuce

Canned vegetables - corn, green beans, sweet potatoes (candied)

Fresh fruits -- apples, bananas, oranges

Canned fruits - apricots, peaches, pears

Sauces - cranberry, tomato, white

Condiments - honey-french dressing, jelly, mustard, relish, tarter sauce, vinegar

Milk - chocolate, whole white

Juices - grapefruit, orange

Peanut butter - in cookies and cake

Soup - split pea

Cottage cheese

Cheese - in casseroles

Ice Cream - sherbet

12. Food items least like by pupils are: apple-rasin-pineapple salad, chow mein, fishwich, lentils, sandwich meals, tuna and noodles.

13. Specific items disliked by pupils are:

Casseroles - fish

Canned vegetables - asparagus, beets, peas, saurkraut, spinach, sweet potatoes

Fresh fruit - grapefruit, plums

Canned fruit - plums

Sauce - cranberry, sweet and sour

Milk - low fat (not served in any pilot school)

Juice - grapefruit

Soup - split pea or any other type

Cottage cheese

The form used to determine the attitudes and opinions of the administrators and school food manager/cooks can be found in the Appendix as page 75.

Pupil School Lunch Program Survey

The results of the survey of pupil participants in the four pilot schools to determine eating habits, pupil participation in school lunch consumption and planning, attitudes toward the physical lunchroom facilities and nutritional awareness follow:

1. Ninety-one percent of the pupil said they ate breakfast before coming to school. They cited no need for a morning snack or breakfast program.
2. Eighty-six percent of the pupils preferred to know the menu in advance. Only two of the schools published their menus.
3. Sixty-seven percent of the pupils answered that a 30 to 45 minute lunch period was suitable, while 25 percent believed the length was too short.
4. Foods most preferred by pupils are chicken, fish sticks, hamburgers, pizza, spaghetti, tacos and wieners.
5. Least liked foods by pupils are: asparagus, saurkraut, spinach and split peas, as well as dry beans in any form, liver, potatoes and ravioli.
6. Most of the elementary pupils, who do not eat school lunch, eat at home.
7. Pupil opinion of their school lunch program was rated "fair" by 49 percent and "good" by 42 percent.
8. Besides eating in the lunchroom, 62 percent of the pupils stated the only other form of pupil participation was to decorate the lunchroom. Twenty-nine percent desired to be involved in menu planning.

9. School lunch programs were rated by pupils as having: a friendly atmosphere; clean but noisy lunchroom; cheerful furnishings; an acceptable amount of supervision; too slow line movement; hot and cold foods served at the proper temperature; crisp salads; tasty and appetizing foods.
10. Pupils thought teachers should wait in line, not cut; receive the same lunch and eat in the cafeteria area.
11. Fifty-three percent considered it nutritionally important to their health to eat school lunch.
12. These elementary pupils considered themselves knowledgeable about nutrition. Their information was acquired at home and in school. (This "knowledge" was not substantiated on the posttests.)

The tallied results of this pupil survey are included in the Appendix as page 94. The survey form,also,is located in the Appendix as page 79.

Comparison of Adult and Pupil Surveys

The Administrators and School Food Manager/Cooks Survey and the Pupil School Lunch Program Survey cannot be compared totally, as two different forms were used to survey the groups. Although the two groups were not given identical survey forms, some parallels are drawn.

1. According to the adults surveyed, a morning snack or breakfast program was not needed. The pupil survey showed agreement with this, as 91 percent of the pupils said they ate breakfast before coming to school.
2. Administrators and school food manager/cooks and pupils agreed on these food preferences, which are not listed in any order of priority: chicken, fish sticks, hamburgers, pizza, spaghetti,

tacos and wieners. Other items included by adults, but not pupils are french fries, ham, lasagna, sandwiches and turkey.

3. Both adults and pupils agreed that the least liked foods are: asparagus, saurkraut, spinach and split peas. Pupils mentioned a dislike for these additional foods: dry beans in any form, liver, potatoes and ravioli.

Participation

Chart No. 2 on page 12 of this report shows the enrollment and school lunch participation of the pilot schools. The main variable in calculating statistics was decreasing enrollment. School "C" showed the greatest increase in participation, moving from 25 percent in September 1974 to 34 percent in September 1975. This increase was due to total school involvement coupled with a desire and committment to increase school lunch participation.

The nutrition education project was only implemented in grades K-6. Therefore the figures in Chart No.2, page 12 do not totally verify the effect of nutrition education on school lunch participation since high school enrollment is included and there is no delineation of grade level.

Menu Evaluation and Food Waste

In dealing with the "food waste" survey singulary (see pages 14 through 17 of this report), one of the first things to be noticed is the limited variety of food items offered in each menu item category. This is of special concern since the menus were served during a two week period in four schools. Each school food manager/cook plans her menu independent of any other school. Because of this limited variety of food items, certain nutrients are lacking such as vitamin A, vitamin C, calcium and iodine, if non-iodized salt is used.

Children will not learn to eat a variety of foods if few chocies are offered.

As one principal commented, this survey did not demonstrate that it was often the same pupil who discards food day after day. Through nutrition education, these types of instances can be reduced.

Very few of the popular food items were served, while many casserole type dishes, which are not popular with pupils, were included in the menus. Some popular food items, for example-cheeseburger, were discarded in a large quantity. In discussions with the school food manager/cooks, the problem was determined to be due primarily to the method of preparation, not a dislike for that particular food item. Serving size seemed to play no significant part in discarding this item.

Using the "Daily Food Record" form (see Appendix page 82) the nutrient content of each food item in a day's menu was calculated by the nutrition education specialist. The "Menu Evaluation" form (see Appendix page 83) was used to evaluate the inclusion of the Basic 4 food groups, taste, temperature, texture, color and cost. A "Plate Waste" survey was conducted to determine which of the items in each menu were discarded by pupils (see Appendix page 84).

Based on those three surveys and using the material extracted from the pupil survey, the nutrition education specialist and the school food manager/cooks discussed various methods for eliminating food waste, improving student acceptability of school menus, while maintaining the desired nutrient balance.

Results of these discussions included a complete revamping of the menu

in School "B". Offerings were varied and alternate methods of preparation were tried. In School "C" different types of food were offered. This move was conducive to pupil participation in the lunch program as is pointed out by the increase in participation as is cited in Chart No. 2 on page 12 of this report.

Other steps taken to improve school lunch menus and pupil participation were to improve the quality and increase the quantity of fresh fruits and vegetables purchased and do more merchandising of the school lunch program through posters, publishing of the menu and providing special lunches for special school occasions. Additionally, school food manager/cooks began listening more critically to pupils' comments and tried cooperative nutrition education programs with the teachers and other school staff. Examples of these cooperative programs, completed by 100 percent of the school food manager/cooks in the pilot schools, are: to supply the food for a classroom spaghetti lunch; to speak to a class about the Type A meal pattern so pupils could plan menus (examples of pupil planned menus are included in the Appendix as page 164); to cook a menu planned by the pupils, to supervise a tour of the kitchen, its storage areas, dishwashing facilities, dry storage, refrigeration areas and sanitation practices; to combine efforts with the pupils to decorate the cafeteria for the School Food Manager/Cooks Area Workshop; to have pupils decorate the cafeteria with posters during the school year for Bicentennial, holidays, special school functions and serve related menus. An example of a Thanksgiving menu including related classroom activities is found in the Appendix as page 106 .

Pre and Post Tests

The pretest, designed for K-6 pupils and concerned with specific

nutritional information, was not given in the pilot schools. The principals in the schools felt that their pupils had no prior knowledge of nutrition; consequently, it would not serve any purpose to administer it. This prevented the measuring of growth in cognitive skills from the pretest to the posttest as was stated in Objective I.

However, if the assumption of the principals is correct, that pupils in the pilot schools knew litte of nutrition prior to the nutrition education project, test results do show a measureable growth in cognitive skills. For example: the number of correct answers given to individual test questions in School "A" is cited in Chart No. 3.

TEST SURVEY SUMMARY

School "A"

Grades	1	2	3	4	5	6	School Total
Number of Students per Grade	6	3	none	11	4	9	33
Posttest Correct Answers							
Question No. 1	5	2		7	2	4	20
Question No. 2	0	1		3	0	3	7
Question No. 3	2	2		6	4	6	20
Question No. 4	0	0		1	1	5	7
Question No. 5	4	1		4	4	7	20
Question No. 6	none	answered					
Question No. 7	6	3		11	4	9	33
Question No. 8	0	0		7	0	7	14

Chart No. 3

Total results of the testing of Schools "A", "B", and "C" are to be found in the Appendix as page 94.

Questions on the test were based on the main objectives in the

Nutrition Education K-6 Curriculum Guide (see Appendix page 166). The original test (see Appendix page 85) was found to need revision after it was administered. Problems existing in the test were:

1. The test continued on the reverse side of one sheet for page two. Teachers and students did not notice this and did not finish the test.
2. Question number six refers to a picture. This picture did not accompany the test sheet.
3. Question number seven, "Why do I eat?", is an inappropriate question because it does not require a best response, thus any response is adequate.

The revised test is included in the Appendix as page 87. However, it still does not provide a picture to accompany question number eight. The picture to accompany the test was the poster FNS 97 "Nutrients and Foods for Health".

Nutrition Education Resources

Availability of nutrition resources for Montana schools is a major concern. At the present time, the Office of the Superintendent of Public Instruction is in the process of updating the film library.

The most effective means of publicizing the availability of resource materials and consequently the distribution of those materials is also of major concern. The position of disseminator for resource materials on nutrition education will belong to the nutrition education specialist in the school food services program of the Office of the Superintendent of Public Instruction. This will be done through mailings, workshops, personal contact, visitations and telephone calls.

OBJECTIVE II

Project Training Completed

As pointed out in Chapter II of this report, a variety of methods were used for inservice training. Included in those methods were: individual contacts during supervisory assistance visits by the nutrition education specialist and school food services staff; eight regional workshops held prior to the starting of school in the fall, a one and one-half day summer workshop held at the University of Montana and group training for all teachers of an individual school. The following chart No. 4 - "Types of Training" demonstrates the type of contact, number of nutrition education lesson plans developed, the percentage of teachers who completed their nutrition education project and used it in a school classroom.

TYPES OF TRAINING

TYPE OF CONTACT	Teacher Attendance	No. of N.E Lesson Plans	Percent Completed
Regional Workshops	126	114 (41-'74 (73-'75	90%
Summer Workshop	25	22	88%
Nutrition Education Specialist-Personal Visits	150	57	38%
4 Pilot Schools	18	18	100%
School Food Services - Staff Visits	55	12	22%
Total	374	223	59%

Chart No. 4

The total percentage of elementary teachers who developed a nutrition education program for their classes was 66 percent.

Nutrition Education School Visits

As a result of visitations, 100 percent of the school food manager/cooks have been involved in joint consultation with selected teachers in their respective pilot schools. These visitations and the specific results thereof are described on pages 21 and 22 of this report.

Regional Teacher Workshops

The number of teacher-participants in the nutrition education sessions at the regional workshops increased yearly as interest in nutrition mounts. In 1974, there were 53 teachers or .9 percent; while in 1975, 126 or 1.6 percent of the eligible teachers (K-6) who attended. By the fall of 1975, 12.4 percent of the 4,210 elementary teachers (K-6) in 417 elementary schools with school food services programs have participated in some phase of the nutrition education project.

In evaluations by workshop participants the sessions were considered interesting and informative. Participants desired to have more specific training in basic nutrition. Another concern was the availability and accessability of inexpensive nutrition education resources, such as: games, films, textbooks, lesson plans, visual aids, activity ideas for specific grade levels, filmstrips, plays, bulletin board ideas and printed materials. There was some concern as to why the universities are not offering nutrition education courses. Following are some specific comments made by teacher-participation:

1. What do you consider the most important part of this workshop?

A. "Nutrition and getting teachers and adults involved in teaching it to children."

B. "Information output stressing attitudes."

C. "Being aware of federal funded programs for breakfast."

D. "How to stress the value of the right foods for all ages."

E. "The specific unit plans and curriculum guides."

F. "How to correspond classroom activities with the lunch room."

2. General Comments:

A. "I really enjoyed this! It's probably the most ignored area in the elementary curriculum."

B. "Get this into Home Economics area."

C. "The packets of information given will be useful - good selection materials and ideas."

D. "I'll use all the ideas pertaining to the menus and merchandising the program to make it more interesting and acceptable to the students."

E. "Glad to see attention placed on nutrition. People need even more direction than is being provided by you - specific teaching ideas."

Summer Workshop for Teachers

A one and one-half day Nutrition Workshop was held on June 12 and 13, 1975, at the University of Montana in Missoula, Montana. A copy of the complete program for the workshop is located in the Appendix as page 116.

Mary K. Peryam, a Home Economics Food and Nutrition Instructor at Montana State University in Bozeman, Montana, was the consultant. Following is

Instructor Peryam's evaluation of the workshop: overall, the workshop was successful, but there is a need for improvement in some areas. Perhaps a time extension to three or four days would give teachers time to finish their projects within the workshop, allowing time to initially provide assistance on the mechanics of lesson plans, i.e., behavioral objectives.

Elementary teachers might be encouraged to lead idea-swapping sessions to describe what they are doing and bring examples of materials used. Also, some university people could be used as nutrition background coordinators and discussion leaders.

"Do-it" type snack breaks should be continued to demonstrate usable ideas. More time should be spent reviewing media sources, with teachers using an evaluation form, followed by discussion of films, slides and books to be reviewed.

More background nutritional topics such as nutritional needs of children and other age groups and current nutritional concerns should be covered. More time should be spent explaining school food services policies and programs and having teachers "do" things such as: use food composition tables to analyze menus, do long and short methods of determining energy needs and write low calorie balanced meals.

Perhaps teachers should be allowd to finish their projects after the workshop's completion to allow more carry over. In addition, teachers should be required to buy a textbook so they will possess a handy reference source of nutrition information.

The stipend should be continued as long as possible. The systems of

college credits and grading should be more clearly explained.

The following is the participants' evaluation of the workshop. The questions were formulated by the instructor.

1. Where did you hear about the Nutrition Workshop?
   A. The most predominant source of contact mentioned was the flyer sent all principals of elementary schools from the school food services program, Office of the Superintendent of Public Instruction (see Appendix page 118).
2. Why did you attend?
   A. The main reason for attending was an interest in the subject of nutrition but other reasons were to update nutrition knowledge, to learn techniques of presenting nutrition information to pupils and to receive credit.
3. Which of the following was of prime interest to you? (Answers are rated in a descending order of interest.)
   A. They are subject matter, length of course, time of year, location, credit and stipend.
4. How much involvement did you desire?
   A. Fifteen participants wanted more and nine stated the amount of involvement was adequate.
5. What did you learn that will assist you in teaching nutrition education?
   A. The most frequently mentioned topics were teaching methods; nutrition activities; new nutrition information; resource materials; review of nutrition information - nutrients, diets and related concerns; student involvement and an

explanation of school food services programs.

6. What topics could have been omitted?
    A. Items that could have been omitted were the nutrition review, a group breakfast, designing a notebook cover, tests, labeling information and school lunch discussion.
7. These topics were listed with a request for comments.
    A. Socio-psychological implication of nutrition -
        1. An interesting concept that should be considered more frequently.
        2. Teachers should consider their attitudes, nutritional background and the effect on their classroom instruction of the subject.
        3. Teachers should consider religious and ethnic customs.
    B. Basic nutrition knowledge?
        1. It was repetitious of information received at the Nutrition Conference.
        2. All school personnel should be exposed to basic nutrition.
        3. Information was mainly applicable to teachers who had a minimum nutritional background.
    C. Nutrition needs of pupils -
        1. Obesity in pupils was of special interest.
        2. Obesity should be a main emphasis of nutrition education.
        3. Pupils should know their personal nutrition needs.
    D. Type A school lunch menu plan -
        1. A knowledgeable teacher can help evaluate and improve the lunch.
        2. Type A is often misunderstood and this was a good explanation.

3. Some teachers did not know what was meant by Type A.
4. It was the first time school lunch and Type A was explained in a college course.
5. If pupils understood the Type A meal pattern, they would have a more positive attitude toward school lunch.

E. Health foods -
   1. This is a subject area of current interest to junior high school pupils.
   2. The pro and con of health foods can be discussed.
   3. It made me more conscious of which foods to select for purchase.
   4. A better perception of the "health food movement" was attained by some participants.
   5. A participant stated that health fads were of no concern.

F. Weight control -
   1. Weight control information should be taught pupils in every school nutrition program.
   2. Schools should be alert to this problem.
   3. There is a need to teach methods on prevention of obesity.
   4. Better guidelines for weight control are desired.

G. Snacks, dental care -
   1. Schools should emphasize dental care.
   2. Tasting parties were enjoyed.

H. Nutrition education and school food services -
   1. School food services programs should be explained to parents and teachers.

    2. Nutrition education specialist on the state level was new information.
    3. A participant received a better understanding of school food services programs.
    4. School food manager/cooks and state staff should assist in the teaching of nutrition education in schools.
    5. A teacher acquired positive and creative ideas concerning teaching methods for nutrition education and how to assist the school lunch program.

  I. Resource materials -
    1. It was a good display and the materials were practical for classroom use.
    2. Addresses and recommendations about various publications were appreciated.
    3. Teachers felt it was advantageous to preview the various resource items.

8. What are your desires for future nutrition training?
  A. Colleges or school districts were the preferred locations.
  B. A suggestion for a date varied from annually to biannually, either in June or August.
  C. The workshop audience should be limited to small groups of teachers including health and physical education instructors.
  D. The course should encompass basic nutrition, be short, concentrated and offer training for various grade levels.

Forty-seven percent of the teachers attending the 1974 regional workshops participated in the summer nutrition education workshop at the University of

Montana in Missoula.

OBJECTIVE III

School Food Manager/Cook Area Workshops

In the school food manager/cooks' workshop evaluations, they stated a preference for a one-day fall meeting. A highlight is sharing a "pot luck" lunch which features new recipe ideas. Workshops in various areas of the state are desirable because they are attended by school food manager/cooks from schools of similar size, kitchen facilities and serving situations. Some cooks from Senior Citizen Centers and Head Start usually attend. A complete program of the School Food Manager/Cook Area Workshops is included in the Appendix as page 121.

Eighty-one percent of the school food manager/cooks from the pilot schools attended a regional workshop. One hundred percent of the school food manager/cooks in the pilot schools completed a variety of activities in cooperation with elementary teachers in their schools. These cooperative activities are discussed in detail on pages 23 and 24 of this report.

Parental Involvement

Pilot schools' methods of involving parents in nutrition education are discussed on page 25 of this report. The "Parent's Opinion of School Lunch" form was designed by a teacher in one of the pilot schools to investigate parental attitudes toward school lunch. This form is located in the Appendix as page 89.

All phases of the project were evaluated by the personnel involved including teachers, administrators and state staff using a variety of techniques.

These techniques included an evaluation form, written opinions, statements made during personal interviews and observations by supervisors of other departments and agencies.

A form to evaluate the nutrition education packet, which was distributed statewide through the nutrition education project, is included in the Appendix as page 90. The information returned relates to the Nutrition Education K-6 Curriculum Guide, resources, teaching techniques and activities, inservice training desired and an opinion of the previous training. All workshops were evaluated in writing by the participants.

Statewide Expansion

Since the beginning of the Nutrition Education project, there has been a continuing expansion of nutrition education awareness and activities with 135 schools having teachers with some nutrition education training. This is 16 percent of the public schools in Montana.

State personnel of the Office of the Superintendent of Public Instruction are cooperating where feasible in such areas as: research, health and physical education, mathematics, elementary education including kindergarten, cultural awareness, Title IX (sex discrimination), home economics, migrant, social studies, special education, adult education and vocational education.

Besides health and physical education teachers, athletic coaches are becoming aware of the nutrition education specialist position through committee contacts, state workshops and personal contacts. The specialist is available to assist those involved with athletics by supplying resource materials applicable to their interest area.

Nutrition education has expanded from the four project pilot schools to 135 other schools in the state in addition to various other groups such as: American School Food Service Association (ASFSA); committees such as the Advisory Committee to the Joint staff, Governor's Committee on Children and Youth, Montana Nutrition Council, Society for Nutrition Education - college and university section; curriculum development; Future Homemakers of America (FHA) - state convention; Home Economics Association (state) and Migrants - cooks and personnel.

University Nutrition Education Course

Nutrition education project demonstrated a need for teacher training in nutrition and nutrition education. The first Nutrition Education Workshop for elementary teachers was implemented by the school food services office in cooperation with a state university, University of Montana in Missoula, in June 1975. But in the summer of 1976, another unit of the university system, Montana State University in Bozeman, scheduled a five-day Nutrition Education Workshop for elementary teachers (K-6) in July 1976. The university's interest is partially due to the good attendance at the first workshop. A brochure outlining the 1976 workshop is included in the Appendix as page 122.

Montana Nutrition Council

A group promoting various aspects of nutrition (see page 5 of this report) is the Montana Nutrition Council which has members from 28 agencies interested in improving nutrition for the general public. A "Nutrition Conference" with nationally renowned speakers on current nutrition topics was held on June 12 and 13, 1975, by this council for people throughout Montana. Every other year this council will have a statewide "Nutrition Conference" with Florida Citrus Growers sponsoring the 1977 conference.

A brochure describing the "Nutrition Conference" of June 12 and 13, 1975, is included in the Appendix as page 123.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The major emphasis of the Montana nutrition education project was to determine if a nutrition education program could be developed that would have a positive effect in developing greater food acceptability by children with a corresponding reduction in food waste in school food programs. To determine if these objectives could be met, a nutrition education specialist was employed. Nutrition education programs were developed in four elementary schools that were statistically representative of Montana schools. These pilot programs were correlated with onsite school lunch programs.

In 1974 the Office of the Superintendent of Public Instruction sponsored seven and nine regional workshops for elementary teachers and administrators to disseminate the Nutrition Education K-6 Curriculum Guide, explain the need for nutrition education in Montana and offer the services of the nutrition education specialist. In 1975, regional workshops were held to emphasize how to determine student and teacher attitudes toward food and nutrition, in general. Montana universities began offering summer workshops for teachers in nutrition education. Workshops were also held for school food manager/cooks and migrant program's cooks.

A comprehensive menu evaluation system was developed to determine the kinds and amounts of foods discarded. Acceptability of foods from each day's menu and the amount of food waste was determined prior to and at the end of the project. An increase in acceptability and a similar decrease in food

waste can be attributed to a positive change in pupil's attitudes toward food through nutrition education and, also, to changes in menu planning and food preparation through school food manager/cook's inservice training.

The effect of previously developed food attitudes; Montana's subcultures; role of the nutrition education specialist; training of school administrators, teachers, school food service manager/cooks and other factors were considered and evaluated.

Results of the project indicate a measurable positive change. The expansion of nutrition education programs from four pilot schools to 135 in 18 months demonstrates an interest and concern in nutrition education that has its impetus from the nutrition education project.

Sponsored by

The nutrition education project was sponsored by the Office of the Superintendent of Public Instruction, School Food Services, Helena, Montana.

Funded by

United States Department of Agriculture, Food and Nutrition Service funded it as a grant to the Office of the Superintendent of Public Instruction for the administration of a project in nutrition education.

Objectives

Objectives of the demonstration project were:

1. "In four school populations, two having forty K-6 students typical of approximately 50 percent of elementary schools in Montana, i.e., three or less teachers and two schools having 400 K-6 students typical of the other 50 percent of Montana schools, as indicated

by 1973 statistics, the student population should show a positive change in cognitive skills relating to nutrition and improvement in eating habits and food choices by May 1, 1975."

2. "By November 15, 1975, 25 percent of all elementary teachers (K-6) in schools having school food service programs will have participated in one or more phases of the nutrition education project and will have initiated a nutrition education program in their classrooms acceptable to the nutrition education specialist."
3. "By October 15, 1975, 50 percent of the school food service manager/cooks in those schools in which elementary teachers are participants in this nutrition education project will have done at least one activity cooperatively with the elementary teachers in their schools."

METHODOLOGY

Selection of Pilot Schools

Four pilot schools were selected to participate in the nutrition education demonstration project on the basis of pupil population being typical of approximately 50 percent of Montana's elementary schools, participation in the school lunch program, the desire of administrators and teachers to participate and time being made available for the nutrition education project by school personnel.

The selection of control groups for the project was within each pilot school.

Administrators and School Food Manager/Cooks Survey

A survey of the pilot schools' principals and school food manager/cooks

was taken to gain insight into problems in school food services programs, the number of participants, nutritional information, variety of menus and food preferences of pupils.

Pupil School Lunch Program Survey

A pupil survey was used to determine eating habits, pupil participation in the school lunch, consumption and planning, attitudes toward the physical lunchroom facilities and nutritional awareness of pupils in pilot schools.

Participation

Statistics were gathered to determine the percentage of increase in participation in the school lunch programs based on enrollment in the pilot schools from September 1974 through September 1975.

Menu Evaluation

Menus were evaluated on the basis of nutrient content of each food item, color, form or shape, flavor, texture and temperature.

Food Waste

It was determined which particular food items were discarded in each day's menu. The factor involved was what food was discarded rather than the amount of food by weight.

Pre and Post Tests

A pretest was designed for K-6 pupils and was concerned with specific nutritional information. Items tested related to the concepts and behavioral objectives in the Nutrition Education K-6 Curriculum Guide. The questions included information taught at all K-6 grade levels.

Project Training Completed

A variety of methods were used for inservice training. Included in these methods are:

1. Individual contacts during supervisory assistance visits by the nutrition education specialist and school food services staff,
2. Eight regional workshops held before schools start in the fall,
3. One and one-half day summer workshop held at a university for credit,
4. Group training for all teachers of an individual school,
5. Seven area workshops for school food manager/cooks,
6. One day summer workshop for migrant program's cooks.

Evaluation Procedures

1. Records were kept on daily participation in the school lunch programs in the pilot schools.
2. Food waste studies were conducted based upon a Type A meal having a traditionally low acceptance with a school's population for a two week control period.
3. Students wrote a one week's Type A lunch menu following the two week control period.
4. Pre and post tests were conducted on nutrition knowledge of pupils in the study and control groups.
5. Records were kept on the number of teachers participating in workshops and the number of resulting nutrition education programs thereof.
6. Records were kept of participation by school food manager/cooks in workshops, the number of joint consultations with teachers and cooperative classroom activities resulting.

RESULTS

As a result of the nutrition education project, the nutrition education specialist will become a permanent position with the Office of the Superintendent of Public Instruction in the school food services program.

Studies show that the pretest increase in pupil participation in the school lunch program and pupil acceptability of menus served therein arises from total school involvement coupled with a desire and a commitment to increase school lunch participation. This was clearly pointed out in the success of the nutrition education program carried out in School "C".

Even though the principals in pilot schools were skeptical about the feasibility of administering a pretest to measure nutritional awareness of pupils, the results of the posttest given shows the pupils to have made a considerable growth in cognitive skills in nutrition education. If the pupils know nothing of nutrition before the project, then every correct answer scored could be considered measurable growth.

After teachers were contacted through regional workshops, summer workshops, visits by the nutrition education specialist and school food services staff, 66 percent in the four pilot schools developed a nutrition education program for their classes. One hundred percent of the school food manager/cooks have been involved in joint consultation with selected teachers in their respective pilot schools and have completed a variety of activities in cooperation with these teachers.

Nutrition education programs have expanded from four pilot schools to 135 in 18 months.

Implications

1. As the need for better nutrition for children is demonstrated, Child Nutrition Programs and, in particular, school food services programs will become more necessary and thus expand. The main objectives of these programs will be to deter nutritional deficiencies in children, make them knowledgeable of proper nutrition and be a learning experience in eating a variety of foods.
2. School food manager/cooks should have more training for their position with particular emphasis on improving the nutrient content of their menus and in nutrition education.
3. Food waste should be reduced as pupils and adults become more aware of Child Nutrition Programs objectives and enjoy eating a greater variety of foods.
4. Having a nutrition education specialist on the state staff has made it possible to develop an awareness of nutrition education needs and methods to satisfy these needs. Also the specialist is implementing methods such as workshops and college courses for teacher training in the area of nutrition education.
5. Results of the nutrition education project show a lack of comprehensive health programs in schools, so this should be a primary area, but not necessarily the only area, for the implementation of nutrition education in schools.

CONCLUSIONS

Based on this nutrition education project, a change in positive attitudes toward food and nutrition has been observed in local school administrators, school staffs, state staff personnel and pupils. There is a developing

realization that nutrition has a place in school curriculums at all grade levels and local school staffs are becoming more aware of the total health of pupils.

Surveys

Local surveys taken in Montana show that 60 to 80 percent of elementary pupils arrive at school without having eaten breakfast. Of the 20 to 40 percent who had eaten before leaving for school in the morning, it is doubtful as to whether or not they had been served an adequate breakfast,as the criterion used in the survey only indicated that "something" had been eaten.

National surveys are demonstrating that a pupil's main meal is often the lunch served at school. Nationwide, people are not eating a nutritionally adequate breakfast. Most nutritional surveys are noting that vitamins A and C, calcium, iron and some B vitamins are below the RDA requirements and these deficiencies are, also, true of Montana children.

PROJECTED EFFECTIVENESS

Many attributes make a nutrition education program successful, whether at the local, state or national level. In developing an effective program in Montana, the components included: realistic goals, specific program plans relative to a total year(s) or state plan, implementation of the objectives and an evaluation of all aspects of nutrition education. An orderly sequence of steps was determined for the effectiveness of the total program with guidelines to assess the progress because improved nutrition and good health have long term results. All this was desirable because the basic objective was the acquisition and practical application of nutritional knowledge.

Local

The effectiveness of the nutrition education project in Montana at a local level is based on some of these concerns:

1. A child's health, including dental health,
2. Healthier pupils are more alert mentally and physically more inclined to learn,
3. Adults, who are nutritionally aware of cause and effect of proper nutrition, will be the long range result,
4. Americans as better food consumers will eat more foods that contribute nutritionally to the diet and spend less money on food fad products.
5. A reeducation in the number of food related health problems such as: dental caries, obesity, cholesterol, possibly hypertension and birth defects.
6. A decrease in health problems would be an economic plus for Montana communities,
7. An awareness and understanding of various subcultures in Montana would lead toward a better acceptance of all people,
8. A comprehensive health curriculum in schools would be instrumental in promoting these desirable results.

State

Nutrition education goals for Montana include these which are not listed in any order of priority:

1. The state school food services is effective in implementing nutrition education.
2. An additional 10 percent of public school staff will be made aware

of school food services programs in one year.

3. Results of the nutrition education project pertinent to Montana schools will be applied in program plans.
4. Fifty percent of the operating public elementary and junior high schools will be participating in a nutrition education program within two years.
5. An additional 10 percent of the school food manager/cooks will become more involved in the educational process through nutrition education in one year.
6. Pupil participation will be increased by four percent in existing school lunch programs in one year.
7. Food waste will be reduced by an estimated 25 percent through nutrition education and menu adaptation within two years.
8. State school food services staff will become more effective in teaching nutrition by using nutrition education as an instrument of learning.
9. Cooperation with health and physical education personnel will be stressed so that nutrition is implemented in a comprehensive health curriculum in two years.
10. Efforts will be made to make the public aware of school food services programs through various media.
11. Through the cooperation of the cultural awareness function of the Office of the Superintendent of Public Instruction, "cultural nutrition" will be taught in 25 percent of the classes teaching nutrition education within two years.

National

With an effective nutrition education program in Montana, as well as in other states, there will be desirable benefits for the nation including healthier children who will become healthier adults.

1. School health programs will be broader in scope and more effective.
2. With more school food services programs available to children, the more advantages they will have to become healthier adults.
3. School food services programs will expand as the public becomes more aware of the need for these services.
4. School food services programs will seek to diminish nutritional deficiencies.

RECOMMENDATIONS

School Food Manager/Cook and Teacher Training

This project has demonstrated a need for more comprehensive training for school food manager/cooks who would be able to critically analyze all phases of their school food service programs to learn the causes of problems and methods of alleviating them. Many of the pupil suggestions should be thoroughly evaluated. A national and local concern is food waste. As shown through various state nutrition education project activities, food waste can be reduced by menu adaptation and education in the area of nutrition.

Elementary teachers require more training in basic nutrition, techniques for teaching it, how to incorporate nutrition into other subject areas and an understanding of school food services programs. By including nutrition in all subject areas, more effective learning will ensue. Nutrition training is especially necessary for elementary and physical education teachers as they

teach the grade levels in which lifelong habits are learned. Teachers who have had some nutrition training need constant updating as nutrition information changes or becomes enlarged very rapidly. A recommendation to Montana universities would be to require a nutrition course for teacher certification and offer courses that are timely and up-to-date.

Subcultures

This nutrition education project reiterated the fact that Montana contains many subcultures based on national origin or religion. Some communities have a variety of subcultures while in others, the community itself is a subculture. The subcultures are Indian, which is the largest, Mexican-American, and other groups of European origin. Orientals and Negroes are not significant in terms of numbers in Montana. An example of a religious subculture is the Hutterites. An awareness of these subcultures is important for the acceptability of the lunch program by the local school staff and the pupils of these particular schools, as each subculture has its typical foods; thus, a state menu planned by the school food services office would not be desirable or practical.

Needs Assessment

The Office of the Superintendent of Public Instruction has been involved statewide in a subject matter "Needs Assessment" program for schools which demonstrated a need for more education in the area of comprehensive health. This area is inclusive of human growth and development, family life relationships, human sexuality, health protection, safety education, mental health, consumer health, community health, environmental protection, disease prevention and control, personal health, nutrition, smoking and health and alcohol's relation to health.

Nutrition Education Guidelines

With the number of schools developing nutrition education programs increasing in Montana, it is necessary for the Office of the Superintendent of Public Instruction to design nutrition education guidelines in schools with grades K-6. The guidelines should be designed to include objectives, behavioral objectives, subject matter content, level of competency per grade and evaluation of the nutrition program. These guidelines would be used in all future training of elementary teachers, school food manager/cooks and by schools planning nutrition education programs.

FUTURE NUTRITION EDUCATION TRAINING

Much of the future nutrition education training within the state's school systems will be contingent on the results of this nutrition education project which will be available in the fall of 1976. The types of training offered will be consistent with the policies of the Office of the Superintendent of Public Instruction. Previous techniques will be continued and expanded, while new methods will be evaluated.

Regional workshops are to be continued for school food manager/cooks, special education teachers, elementary teachers, kindergarten teachers, migrant cooks and staff, Future Homemaker of America groups and in cooperation with the universities for nutrition courses.

Promotion and participation in a statewide Nutrition Conference (see Appendix page 123)every other year will continue according to present objectives.

During supervisory assistance visits, there will be individualized

instruction and total school staff training in some Montana schools. A variety of other techniques will be investigated as to their practicality, economic feasibility, concurrence with state office perspectives and applicability to Montana schools. Some of these possibilities are: nutrition education courses for teachers and/or pupils on television, individualized instruction lessons for pupils, nutrition education correspondence course for teachers, a program explaining school food services programs to community groups and a correspondence course for school food manager/cooks.

Commercial resource materials and information will be continually evaluated and disseminated by the most feasible methods available. The Montana Nutrition Council and school food services office plan to maintain and update the Nutrition Reference booklet for school librarians and teachers.

APPENDICES

APPENDICES

Page

A Descriptive Analysis of Appendices Items 69

APPENDIX I 74

- School Lunch Evaluation 75
- Student Survey 79
- Daily Food Record 82
- Menu Evaluation 83
- Food Waste 84
- Nutrition Education Test 85
- Nutrition Education Test (Revised) 87
- My Food Attitudes 88
- Parent's Opinion of School Lunch 89
- Nutrition Education Packet - Evaluation 90

APPENDIX II 91

- Comparison of Pilot Schools 92
- Test Survey Summary 93
- Student Survey Results 94

APPENDIX III 100

- "Everything You Have Always Wanted To Know About Teaching Nutrition But Didn't Know Who To Ask" 101
- "Thanksgiving Day, 1621" 106

APPENDIX IV 111

- Nutrition Education Workshop Outline, 1974 112
- "Nutrition in a Nutshell," 1975 113
- Nutrition Education Workshop 116
- A Flyer Sent Principals of Elementary Schools from School Food Services Concerning the Nutrition Education Workshop 118
- Application Form for the Nutrition Education Workshop 119
- News Article about Statewide Nutrition Education Workshop 120
- Type A is Nutrition 121
- Nutrition Education Workshop, 1976 122
- "Truth, Tales and Teaching Techniques" 123

APPENDIX V 127

- Teacher Developed Lesson Plans in Nutrition Education 128
- Student-written Type A Menus 164

APPENDIX VI 165

- Nutrition Education K-6 Curriculum Guide 166

A DESCRIPTIVE ANALYSIS OF APPENDICES ITEMS

Page

School Lunch Evaluation 75

It was used in the pilot schools and at workshops with teachers, administrators and school food manager/cooks to determine their opinions of school lunch programs.

School Food Service Program, Nutrition Education, Student Survey 79

It was used to determine pupils' attitudes toward food in general and school lunch in particular. The form is too long and complicated for elementary pupils. The format should be arranged so that the results can be easily tallied by computer or with a master sheet.

Daily Food Record 82

It was used by the nutrition education specialist and school food manager/cooks to evaluate the menus of the four pilot schools in relation to a Type A lunch and nutrient content.

Menu Evaluation 83

It is the revised edition of this form. At the suggestions of school food manager/cooks who used the first form, the fruit and vegetable column has subdivisions for vitamins A and C. The temperature column has an additional division for warm (W). The texture column has an extra space for bulk (B).

Plate Waste 84

It is a form used to determine specific foods discarded rather than the amount of foods discarded by weight. It is self-explanatory, simple in format and easy to tally. It should be administered by a high school

Page

student as an administrator or stranger in the building is too conspicuous and the pupils do not discard food items they normally would.

Nutrition Education Test. 85

It was designed as a pre and post test for the pilot schools. Questions were based on the main objectives in the Nutrition Education K-6 Curriculum Guide. A variety of types of questions and methods of answering were used. A one page test is a suitable length for elementary pupils.

Nutrition Education Test (Revised). 87

The original test was continued to the back side of the test sheet. Students and teachers did not notice this and, therefore, did not complete the test. Question No. 7, "Why do I eat" as it appeared on the original, was inappropriate, as it did not require a "best" response. Question No. 6 on the original and No. 8 on the revision should be accompanied by a picture on the test paper or attached.

My Food Attitudes 88

It is a form used during personal visits and regional workshops to stimulate participants to think about their attitudes toward food. It is a useful discussion tool.

Parent's Opinion of School Lunch. 89

It was sent home by teachers for feedback. For more reliable information, parents should not sign their name. The length and variety of topics was suitable.

Page

Nutrition Education Packet - Evaluation. 90

It was used to acquire some written evaluations of the Nutrition Education K-6 Curriculum Guide and leaflets distributed with it. It should not be used as the only form of evaluation as people tend to forget and not write in as much detail as in a verbal discussion.

Comparison of Pilot Schools. 92

It is a chart which compares the pilot schools according to location by area of the state, type of community, economy, population, number of teachers, student population, minorities, number of school food manager/cooks, kitchen equipment and menus.

Student Survey Results. 94

It is a tabulation of correct responses to each test question asked on the "Nutrition Education Test".

Everything You Always Wanted to Know About Teaching Nutrition but Didn't Know Who to Ask. 101

It is an example of a nutrition education bulletin published by the School of Home Economics at Montana State University.

Thanksgiving Day, 1621. 106

It is an example of a commercial lesson plan published in the School Foodservice Journal. The lesson plan correlates a menu to an occasion and includes related classroom activities.

Nutrition Education Workshop Outline, 1974. 112

It is an outline of the program for the regional nutrition education workshops sponsored by the Office of the Superintendent of Public Instruction.

Page

Nutrition in a Nutshell 113

It is an outline for the 90 minute regional nutrition education workshops for elementary teachers held in the fall of 1975.

Nutrition Education Workshop 116

It is an outline of the program of a one and one-half day workshop held at the University of Montana in Missoula, Montana in 1975.

Workshop flyer sent to principals 118

This enclosure is a copy of the flyer sent to principals of elementary schools from school food services concerning the nutrition education workshop discussed above.

Nutrition Education Workshop Application Form 119

This application form was used for the nutrition education workshop discussed above.

Newspaper Article 120

It shows the publicity given and the scope of the first Montana Nutrition Conference.

Type A Is Nutrition 121

It is the outline of the program for the one day workshops in different areas of the state for school food manager/cooks.

Nutrition Education Workshop, 1976 122

It is a brochure which describes a nutrition education workshop to be held at Montana State University on July 26-30, 1976.

Page

Truth, Tales and Teaching Techniques. 123

It is a brochure which describes the "Nutrition Conference" sponsored by the Montana Nutrition Council.

Teacher Developed Plans for Nutrition Education. 128

They are lesson plans devised by teachers as a result of various contacts with nutrition education (workshops, visitations, pilot schools).

Student-written Type A Menus. 164

They are examples of menus written by students after exposure to nutrition education and, specifically, Type A meal planning.

Nutrition Education K-6 Curriculum Guide. 165

It is used as an activity guide by teachers who develop their own nutrition education program. It was distributed at workshops, mailed and issued through personal visits. In future printing, it will be revised to eliminate sex bias, describe games mentioned, include a code that will show correlation with other subject areas and eliminate the resource section as this will be disseminated in some other form and manner.

APPENDIX I

Page
School Lunch Evaluation.. 75

Student Survey... 79

Daily Food Record.. 82

Menu Evaluation.. 83

Food Waste... 84

Nutrition Education Test....................................... 85

Nutrition Education Test (Revised)............................. 87

My Food Attitudes.. 88

Parent's Opinion of School Lunch............................... 89

Nutrition Education Packet - Evaluation........................ 90

SCHOOL LUNCH EVALUATION

____Teacher
____Administrator
____School Food Manager

	Circle ALL suitable answers
1. As a school food manager/cook do you have problems? a) frequently b) occasionally c) seldom d) not applicable	1. a b c d
2. If you answered a or b above, what type of problems do you have? a) food waste b) poor participation c) administrative attitudes d) teacher attitudes e) student attitudes f) poor kitchen facilities g) not applicable h) other______________________ ________________________________	2. a b c d e f g h
3. How many minutes does each pupil have to eat lunch? a) 45-60 minutes b) 30-45 minutes c) less than 30 minutes	3. a b c
4. A pre-lunch count is: a) valuable b) could be more value c) is generally inaccurate d) is not usually accurate e) is not necessary	4. a b c d e
5. The number of students you serve daily is: a) less than 100 b) between 100-200 c) 201-500 d. 501-1000 e) over 1000	5. a b c d e
6. Your estimate of students that eat school lunch on a regular basis is: a) less than 50 b) 50-100 c) 101-500 d) 501-1000 e) over 1000	6. a b c d e
7. The number of teachers that eat school lunch on a regular basis is: a) under 5 b) 5-10 c) 11-30 d) 31-100 e) over 100	7. a b c d e
8. The number of staff members or students on specific diets is: a) less than 5 b) 5-10 c) 11-30 d) 31-100 e) over 100 f) unknown	8. a b c d e f
9. In No. 8 above the specific diets are: a) weight control b) low sodium c) diabetes d) other_____________________________________	9. a b c d

	Circle ALL suitable answers
10. School lunch menus are published before the serving date? a) monthly b) weekly c) daily d) are not published	10. a b c d
11. School lunch menus are repeated at an interval of: a) 3 weeks or more b) 2-3 weeks c) less than 2 weeks d) rarely	11. a b c d
12. A food unfamiliar to your students is included in the menus: a) daily b) weekly c) monthly d) occasionally e) never	12. a b c d e
13. The meals usually served have: a) 3 or more colors b) 2 or 3 colors c) 1 basic color	13. a b c
14. Each meal is planned to have: a) 3 or more flavors b) 2 flavors c) 1 main flavor d) flavor is not considered	14. a b c d
15. The meals served have: a) 2 distinct textures b) 1 main texture b) texture is not considered	15. a b c
16. Each meal usually has: a) hot & cold foods b) all hot foods c) all cold foods d. not considered	16. a b c d
17. Popular teen food items served are: a) pizza b) tacos c) chili d) hot dogs e) hamburgers f) other____________________	17. a b c d e f
18. You consider the school lunch program to be: a) a pupil feeding program b) a part of the total education program c) both of the above d) no opinion	18. a b c d
19. You consider your job as School Food Manager to be: a) a food service manager b) a cook c) a part of education d) all of the above e) no opinion f) not applicable	19. a b c d e f
20. A variety of foods from each Basic 4 food group is served: a) daily b) weekly c) not considered	20. a b c

	Circle ALL suitable answers
21. The number of "free" meals served to needy students per day is: a) less than 20 b) 20-50 c) 50-100 d) 100 or more e) do not know	21. a b c d e
22. The number of "reduced" price meals served to needy students per day is: a) less than 20 b) 20-50 c) 50-100 d) 100 or more e) do not know	22. a b c d e
23. The administration attitude toward the school lunch program is: a) cooperative b) uncooperative c) tolerant d) don't know	23. a b c d
24. A morning snack or breakfast program for students in the school is: a) desirable b) undesirable c) not needed d) no opinion	24. a b c d
25. A morning snack or breakfast program, if needed, could be handled by: a) students b) parents c) school food managers d) teachers e) P.T.A. or similar organization f) no opinion	25. a b c d e f
26. The school food cafeteria could be used as part of a nutrition education program for: a) food demonstrations b) socializing during lunch c) consumer buying d) cannot be used e) other cooperative classroom activities	26. a b c d e

(continued on next page)

(Fill in name of food(s) for each item)

ITEM	LIKE	DISLIKE
Casseroles		
Vegetables:		
Fresh		
Canned		
Fruits:		
Fresh		
Canned		
Sauces:		
White		
Tomato		
Sweet and Sour		
Condiments		
Milk:		
Chocolate		
Whole white		
Low fat		
Peanut butter		
Cranberry sauce		
Grapefruit juice		
Orange juice		
Sweet potato		
Split peas		
Cheese		
Cottage cheese		
Ice cream		

5 food items most liked: ______________________________

5 food items most disliked: ______________________________

What is the food heritage of your area? ______________________________

Other comments: ______________________________

State of Montana Office of the Superintendent of Public Instruction Dolores Colburg, Superintendent Helena, MT 59601	SCHOOL FOOD SERVICE PROGRAM NUTRITION EDUCATION STUDENT SURVEY	

DIRECTIONS: Please circle or write in the most suitable response.

1. a) Age________________ b) Grade________________ c) Sex________________

2. Do you usually eat breakfast? Yes No

3. When possible do you snack between meals? Yes No If yes, what item?
a) crackers b) fruit c) sandwich d) milk e) soda pop or candy
f) coffee g) chips h) cookies

4. Do your parents encourage you to eat school lunch? Yes No

5. Do your teachers encourage you to eat school lunch? Yes No

6. Do you look forward to lunch at school? Yes No

7. Do you prefer to know what is being served in the school lunch each day?
Yes No

8. How many times per school week do you eat your lunches at the following?
a) school lunch service_____ b) commercial sources outside school_____
c) bring your lunch_____ d) home_____ e) other________________________

9. Are you permitted to leave the school grounds during lunch period?
Yes No
If yes, how many days per week do you leave?______
If you leave, do you generally eat lunch? Yes No
Do you eat a nutritious lunch? Yes No

10. What word best expresses your opinion of the school lunch?
a) good b) fair c) poor

11. How do you feel about the price of the school lunch?
a) too high b) too low c) about right

12. Do you think the school lunch is appetizing? Yes No

13. Do you feel the amount of food served in school lunch is:
a) about right b) too much c) too little

14. Can you get second helpings at school lunch? Yes No
If yes, are second helpings free? Yes No

15. Do you have a choice of foods at your school lunch? Yes No
If yes, how often? a) every day b) often c) seldom
What choices are offered?
a) main dishes b) salads c) vegetables d) desserts
e) other____

16. List your five favorite foods served at your school lunch.
a)____________________ b)____________________ c)____________________
d)____________________ e)____________________

17. List your five least liked foods served at your school lunch.
a)____________________ b)____________________ c)____________________
d)____________________ e)____________________

18. What are some foods not served that you would like to see served at school lunch?
a)____________________ b)____________________ c)____________________

19. Do students have any part in:
a) planning menus b) decorating or arranging the lunchroom
c) helping serve d) supervising the lunchroom

20. What part should students have in the School Food Service?
a) serving b) clean-up c) menu planning d) decorating
e) supervising f) other____

21. Circle the word or words below which best describe(s) the following aspects of your school's food service program:

ATMOSPHERE: a) hectic b) friendly c) efficient d) courteous
e)relaxed f) impersonal g) inefficient h) discourteous

LUNCHROOM: a) clean b) orderly c) noisy d) not clean
e) disorganized f) quiet

FURNISHINGS: a) cheerful b) drab

MOVEMENT OF LUNCH LINE: a) about right b) too fast c) too slow

SUPERVISION OF LUNCHROOM:a) about right b) too strict c) too lenient

HOT FOOD SERVED: a) right temperature b) too hot c) too cold

SALADS SERVED: a) crisp b) limp

MILK SERVED: a) cold b) warm

FOOD AS SERVED: a) appetizing b) not appetizing c) tasty
d) not tasty

22. Do you feel the length of the lunch period is:
a) about right b) too short c) too long

23. Do you have time to enjoy your meal? Yes No

24. Do you like the seating arrangement in the lunchroom? Yes No
Why? a) you can sit where you want b) you can't sit where you want
c) tables are too crowded d) Other___________________________________

25. How would you improve the appearance of the lunchroom?______________
____

26. Do you feel teachers should?
a) eat the same school lunch as students? Yes No
b) eat in the same dining room as students? Yes No
c) go through the same line as students? Yes No
d) wait in line with students? Yes No

27. Do you think it is important to your health to eat the school lunch?
Yes No If yes, why? a) nutrition b) hunger
If no, why? a) quantity b) quality c) other______________________

28. Do you feel your meals are nutritionally adequate? Yes No

29. How many servings per day do you eat of the four basic food groups?
a) bread or cereal products_____ b) milk, butter, margarine or other dairy products_____ c) fruit, vegetables_____ d) meat, eggs, cheese dry beans or other protein_____

30. Do you feel you are knowledgeable about nutrition? Yes No
If yes, where? a) home b) school c) books, magazines d) clubs, organizations e) television f) other______________________________

31. Does your school newspaper contain articles on:
a) school food service? Yes No b) nutrition? Yes No

32. In general, how do you feel about the school's food service program?
a) favorable because of food and service b) favorable but could be improved c) unfavorable because of food or service d) unfavorable for social reasons e) indifferent f) too expensive
g) other ____

33. Comments and/or suggestions:____
____

DAILY FOOD RECORD

State of Montana
Office of the Superintendent
of Public Instruction
Dolores Colburg, Superintendent
Helena, MT 59601

		BASIC 4					NUTRIENTS										
BREAKFAST	Amount	Meat	Bread-Cereal	Milk	Fruit-Vegetable	Other	Protein	Fat	Carbohydrates	Calcium	Iron	Vitamin A	Thiamen	Riboflavin	Niacin	Ascorbic Acid	Calories
	TOTAL																

LUNCH																	
	TOTAL																

SNACK																	
	TOTAL																
	COMPLETE TOTAL																

Nutrition Education Project

School Food Service

State of Montana
Office of the Superintendent
of Public Instruction
Dolores Colburg, Superintendent
Helena, MT 59601

MENU EVALUATION

MENU (list each food item)	Milk	F-V		Meat	B-C	Other	TEMP.			TEXTURE			TASTE	COLOR	COST
		A	C				H	W	C	B	S	C			

TASTE: bland, mild, spicy, sour, sweet
TEXTURE: B-bulk, S-soft, C-crisp
COLOR: B-brown, W-white, G-green, R-red, P-purple, YO-yellow orange

Nutrition Education Project

School Food Service

PLATE WASTE

School: ____________________
Date: ____________________
No. Served: ____________________

Menu		No. Full Servings Discarded		No. Partial Servings Discarded		Student Comments
		Elementary	High School	Elementary	High School	
Main Dish or Meat						
Vegetable						
Salad						
Dessert						
Bread						
Margarine						
Milk						
Other						
	TOTALS:					

Date: ____________________
No. Served: ____________________

Menu		No. Full Servings Discarded		No. Partial Servings Discarded		Student Comments
		Elementary	High School	Elementary	High School	
Main Dish or Meat						
Vegetable						
Salad						
Dessert						
Bread						
Margarine						
Milk						
Other						
	TOTALS:					

State of Montana
Office of the Superintendent
of Public Instruction
State Capitol
Helena, MT 59601

NUTRITION EDUCATION TEST

DIRECTIONS: Please complete the following as indicated.

1. What is necessary for life? (Circle the correct answer(s).

   a. water
   b. air
   c. food
   d. light

2. Where does food come from? (Circle the correct answer(s).

   a. soil
   b. animals
   c. plants
   d. water

3. What do these animals eat? (Draw a line to connect the animal to the food.)

a. cows, horses, sheep	seeds
b. cats	plants
c. dogs	meat
d. birds	insects
e. fish	milk

4. Name the Basic 4 food groups.

   a. ______________________
   b. ______________________
   c. ______________________
   d. ______________________

5. How is the human body like a car in its use of food for energy? (Draw a line to connect the words under "car" with the words under "man".)

Car	Man
gas	die
water	fat
gas tank	food
no gas	water

6. To which food group do each of these pictured food items belong? (Put an X on a line for each food item pictured; there may be more than one X on a line.)

   a. meat __________
   b. bread-cereal __________
   c. fruit-vegetable _______
   d. milk __________
   e. other __________

7. Why do I eat? (Circle the correct answer(s).

   a. so I won't die
   b. for fun
   c. tastes good
   d. smells good
   e. an adult makes me

8. Which foods did we learn to use from the Indian cultures? (Circle the correct answer(s)

a. cake
b. corn
c. jerky
d. rice
e. fish
f. wild game
g. berries

State of Montana Office of the Superintendent of Public Instruction Dolores Colburg, Superintendent Helena, MT 59601	NUTRITION EDUCATION TEST Grades 1-6	

DIRECTIONS: Please complete the following. (Circle the letter in front of the correct answer; more than one letter may be circled).

1. What is necessary for life?
   - a. Water
   - b. Air
   - c. Food
   - d. Light

2. Where does food come from?
   - a. Soil
   - b. Animals
   - c. Plants
   - d. Water

3. Why do I have to eat?
   - a. To stay alive
   - b. For fun
   - c. Tastes good
   - d. Smells good
   - e. An adult makes me

4. Which foods did we learn to use from the Indian cultures?
   - a. Cake
   - b. Corn
   - c. Jerky
   - d. Rice
   - e. Fish
   - f. Wild Game
   - g. Berries

5. What do these animals eat? (Draw a line connecting the animal and its food).

a. Cows,horses,sheep	Seeds
b. Cats	Plants
c. Dogs	Meat
d. Birds	Insects
e. Fish	Milk

6. List the Basic 4 food groups:

____

____

____

____

7. How is the human body like a car in its use of food for energy? (Draw a line connecting words listed after "Car" to words listed after "Man").

CAR	MAN
Gas	Die
Water	Fat
Gas Tank	Food
No Gas	Water

8. To which food group do each of these pictured food items belong? (Put an X on a line for each food item pictured; there may be more than one X on a line).
   - a. Meat ____________________
   - b. Bread-Cereal ____________________
   - c. Fruit-Vegetable ____________________
   - d. Milk ____________________
   - e. Other ____________________

State of Montana Office of the Superintendent of Public Instruction Dolores Colburg, Superintendent Helena, MT 59601	MY FOOD ATTITUDES	

DIRECTIONS: Read each of the following statements. Check your response in the column that is most applicable to your opinion.

MYSELF AND FOODS	USUALLY	RARELY	NEVER
I enjoy the experience of eating.			
I enjoy many types of foods.			
I enjoy trying new foods.			
I enjoy foods of other cultures.			
I enjoy preparing and serving food.			

MY FAMILY AND FOODS	USUALLY	RARELY	NEVER
My children do some food preparation.			
My family enjoys many types of foods.			
My family enjoys foods of other cultures.			
My family enjoys eating out four or more times a month.			

MY SCHOOL AND FOODS	AGREE	DISAGREE
I feel my school should teach the basic nutrition facts.		
I feel it is necessary for schools to serve lunch to students.		
I feel school lunch and/or breakfast menus should be published.		
I feel lunch and breakfast at school offers an opportunity for socalizing.		
I feel school should offer a breakfast or morning snack.		
I feel my school should be involved in planning our nutrition program.		
I feel 'free' and 'reduced' price meals should be offered in school.		
I feel school should be the leader in nutrition education.		
I feel students acquire enough knowledge about nutrition from their parents so an information program at school is unnecessary.		
I feel that nutrition information can be presented in all subject areas at school.		

State of Montana
Office of the Superintendent
of Public Instruction
Dolores Colburg, Superintendnet
Helena, MT 59601

PARENT'S OPINION OF SCHOOL LUNCH

1. Do you feel your children eat a balanced meal?
   Usually____ Sometimes____ Seldom____

2. How do you feel about the price of school lunch?____________________________

3. Lunch time at our school is: too short____ too long____ just right____

4. How often do your children eat school lunch?
   Usually____ Seldom____ Never____

5. How important is school lunch to the total day's diet?____________________

6. Do you know about 'free and reduced price' lunches for some children?
   Yes____ No____

7. Do your children require a special diet? Yes____ No____

8. My children: don't eat lunch___take a sack lunch___have lunch in town___

9. Do your children eat breakfast? Yes____ No____

10. Should we offer breakfast at school? Yes____ No____

11. What foods do your children dislike? ______________________________________

12. Would you care for an adult course in the latest information about
    nutrition? Yes___ No___ If so, which of the following would be useful:
    pricing and advertising___ food preparation___ food and health___
    eating habits____

13. What should we teach children about nutrition? ____________________________

State of Montana
Office of the Superintendent
of Public Instruction
Dolores Colburg, Superintendent
Helena, MT 59601

Name: ____________________
Position: ____________________
School: ____________________
Grade: ____________________
Town: ____________________

NUTRITION EDUCATION PACKET - EVALUATION

Did you use it? yes ___ no ___ In what way? ____________________
____

The information in the packet was: used ___ incomplete ___

Describe other activities you taught that are not listed in the curriculum guide. ____________________

Please list the activities you used by page and item number. ____________________
____

Did you combine any activities with the School Food Manager/Cook? yes ___ no ___ Please describe: ____________________

Which resources in the packet did you use? ____________________

Other resources used: ____________________

Can you suggest any layout changes for the Nutrition Education Curriculum Guide? ____________________

What type of nutrition information do you need? ____________________

Did you take pictures of your nutrition education activities? yes ___ no ___

Could you send me a copy of your nutrition education lesson plans or an outline? yes ___ no ___

TRAINING

What type of training would you like to receive on nutrition education?
____

Summer course (for credit): yes ___ no ___

State Regional Workshops: yes ___ no ___ all day ___ ½ day ___ 45 min. ___

(If needed add additional sheets or use the back of this form.)

Nutrition Education Project
F5323-022302-12/75

School Food Services

APPENDIX II

Page

Comparison of Pilot Schools. 92

Test Survey Summaries. 93

Student Survey Results. 94

Town	Area of State	Type of Community	Economy	Population	No. of Teachers	Students	Minority	No. of Cooks	Kitchen Equipment	Menus
A	NW	rural	stable, below national average	250	6	64 El. 72 H.S. 136 total some bussed	1	2	adequate	Mainly casseroles, many baked items, limited variety fresh fruits and vegetables, many condiments, no popular teen foods served, too much food waste
B	SE	rural, well-to-do ranchers	stable	799	19	280 El. 254 H.S. 534 total some bussed	few	2	adequate	Mainly casseroles, some soups, limited variety fresh fruits and vegetables, some baked items, no popular teen foods served, minimum Type A requirements, too much food waste
C	NW	rural, agricultural center	stable	3111	32	582 El. 364 H.S. 946 total some bussed	few	4	old, needs updating, new equipment by end of project	Mainly casseroles, many baked items, limited variety fresh fruits and vegetables, no popular teen foods served, too much food waste
D	midwest	suburb	one industry town	1651	9	206 El.	few	2	inadequate for size of program	Mainly casseroles, no popular teen foods served, limited variety fresh fruits and vegetables, little baking, too much food waste

Chart No. 1

TEST SURVEY SUMMARIES

School "A"

Grade	1	2	3	4	5	6	Total
No. students	6	3	0	11	4	9	33
Correct answers							
Question No. 1	5	2	0	7	2	4	20
Question No. 2	0	1	0	3	0	3	7
Question No. 3	2	2	0	6	4	6	20
Question No. 4	0	0	0	1	2	5	8
Question No. 5	4	1	0	4	4	7	20
Question No. 6	0	0	0	0	0	1	1
Question No. 7	6	3	0	11	4	9	33
Question No. 8	0	0	0	7	0	7	14

School "B"

Grade	1	2	3	4	5	6	Total
No. students	21	19	20	31	24	28	143
Correct answers							
Question No. 1	8	7	5	5	14	1	40
Question No. 2	0	2	1	0	8	0	11
Question No. 3	11	8	14	16	16	18	83
Question No. 4	0	0	0	7	22	19	48
Question No. 5	12	2	9	25	19	11	78
Question No. 6	0	0	0	0	0	0	0
Question No. 7	21	19	20	31	24	28	143
Question No. 8	4	2	3	13	17	10	49

School "C"

Grade	1	2	3	4	5	6	Total
No. students	19	35	18	55	58	46	231
Correct answers							
Question No. 1	10	11	4	17	17	32	91
Question No. 2	1	1	1	6	11	18	38
Question No. 3	16	28	10	42	34	38	168
Question No. 4	16	15	14	51	55	38	189
Question No. 5	11	11	13	40	52	36	163
Question No. 6	none answered						
Question No. 7	19	35	18	53	57	44	226
Question No. 8	1	0	6	22	24	28	81

		TOTAL RESPONSES					GRADE 1				GRADE 2				GRADE 3				GRADE 4				GRADE 5				GRADE 6		
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
2. Do you usually eat breakfast?	Yes	252	28	49	175		4				3		17		10		19				54		3	26	45		8	23	40
	No	22	5	5	12		2				0		0		1		1				2		1	3	6		1	2	3
3. When possible do you snack between meals?	Yes	237	29	47	161		6				1		10		11		16				50		3	25	46		8	22	39
	No	26	4	2	20		0				2		8		0		4				4		1	0	3		1	2	1
If yes, what kind?	a. crackers	53	6	4	43		1				1		4		0		2				12		2	4	15		2	0	10
	b. fruit	154	21	23	110		3				1		6		7		12				33		2	12	33		8	11	26
	c. sandwich	75	16	6	53		2				1		6		2		3				13		3	2	18		8	4	13
	d. milk	123	20	15	88		1				1		7		7		2				30		3	7	28		8	8	21
	e. pop or candy	83	14	8	61						1		3		5		1				11		0	4	23		8	4	23
	f. coffee	11	4	0	7						0		1		1		1				1		3	0	1		0	0	3
	g. potato chips	63	15	3	45		4				1		3		1		2				6		2	1	20		7	2	14
	h. cookies	116	19	14	83		5				1		7		5		2				25			9	31		8	5	18
4. Do your parents encourage you to eat school lunches?	Yes	171	21	37	113		4				1		16		8		10				40		3	20	27		5	17	20
	No	109	12	18	79		2				2		1		3		8				17		1	10	28		4	8	25
5. Do your teachers encourage you to eat school lunches?	Yes	120	19	36	65		0				0		5		8		3				36		4	15	5		7	21	16
	No	151	15	19	117		6				4		12		3		9				19		0	13	49		2	6	28
6. Do you look forward to lunch at school?	Yes	183	19	33	131		5				2		13		9		15				42		0	20	42		3	13	19
	No	90	13	21	56		1				1		3		2		5				13		3	10	10		6	11	25
7. Do you prefer to know what is being served for lunch?	Yes	216	25	50	141		3				2		9		8		13				37		4	25	43		8	25	39
	No	33	7	1	25		3				0		5		3		3				7		0	1	7		1	0	3
8. How many times per school week do you eat your lunches at the following: a. school lunch service	1 (one)	7	0	1	6		0				0		0		0		1				0		0	1	5		0	0	0
	2 (two)	5	0	2	3		0				0		0		0		1				1		0	1	0		0	1	1
	3 (three)	18	0	3	15		0				0		2		0		0				5		0	0	5		0	3	3
	4 (four)	10	1	5	4		0				1		1		0		0				0		0	4	3		0	1	0
	5 (five)	123	21	27	75		4				0		10		8		9				20		4	17	21		5	10	15

			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
b. commercial sources outside school	1 (one)	4	0	0	0		0				0		0		0		1				3		0	0	0		0	0	0
	2 (two)	1	0	0	0		0				0		0		0		0				1		0	0	0		0	0	0
	3 (three)	0	0	0	0		0				0		0		0		0				0		0	0	0		0	0	0
	4 (four)	1	0	0	1		0				0		0		0		1				0		0	0	0		0	0	0
	5 (five)	0	0	0	0		0				0		0		0		0				0		0	0	0		0	0	0
c. bring your lunch	1 (one)	8	1	3	4		0				1		2		0		1				0		0	1	1		0	2	0
	2 (two)	10	0	2	8		0				0		3		0		0				3		0	0	2		0	2	0
	3 (three)	5	0	2	3		0				0		0		0		1				1		0	1	0		0	1	1
	4 (four)	3	0	1	2		0				0		0		0		1				0		0	1	1		0	0	0
	5 (five)	21	2	6	13		1				1		0		0		0				7		0	3	5		0	3	1
d. home	1 (one)	2	0	0	2		0				0		1		0		0				0		0	0	1		0	0	0
	2 (two)	9	0	0	9		0				0		0		0		0				3		0	0	5		0	0	1
	3 (three)	2	0	0	2		0				0		0		0		0				2		0	0	0		0	0	0
	4 (four)	10	0	0	10		0				0		0		0		2				4		0	0	4		0	0	0
	5 (five)	44	9	2	33		1				1		0		3		4				12		0	0	9		4	2	8
Are you permitted to leave the school grounds during lunch periods?	Yes	153	14	39	100		2				2		0		2		10				29		0	23	27		8	16	34
	No	95	16	11	68		4				1		16		7		5				20		4	4	21		0	7	6
If yes how many days per week do you leave?	1 (one)	0	0	0	0		0				0		0		0		0				0		0	0	0		0	0	0
	2 (two)	5	0	3	2		0				0		0		0		0				2		0	0	0		0	3	0
	3 (three)	6	0	0	6		0				0		0		0		0				3		0	0	2		0	0	1
	4 (four)	5	0	0	5		0				0		0		0		0				3		0	0	2		0	0	0
	5 (five)	49	4	0	45		1				1		0		2		4				12		0	0	9		0	0	20
If you leave do you generally eat lunch?	Yes	147	6	32	109		1				1		0		3		8				37		0	17	27		1	15	37
	No	40	6	6	28		0				0		0		0		7				9		0	3	8		6	3	4
Do you eat a nutritious lunch?	Yes	200	22	45	133		1				1		0		8		15				44		4	25	35		8	20	39
	No	13	0	1	12		0				0		0		0		1				3		0	1	3		0	0	5
What word best expresses your opinion of the school lunch?	a. Good	114	15	7	92		4				3		12		1		8				29		0	4	27		7	3	16
	b. Fair	132	11	39	82		1				0		4		10		10				23		0	23	21		0	16	24
	c. Poor	22	7	9	6		1				0		1		0		0				2		4	1	2		2	8	1
How do you feel about the price of the school lunch?	a. too high	94	23	2	69		4				3		8		9		8				20		[illegible]	2	11		4	0	22
	b. too low	9	0	2	7		0				0		1		0		1				0		0	1	4		0	1	1
	c. about right	166	10	49	107		2				0		7		2		6				37		1	25	39		5	24	18

		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
Do you think the school lunch is appetizing? Yes	216	25	36	155		4				3		15		9		11				50		4	24	48		5	12	31
No	43	7	18	18		1				0		0		2		3				3		0	7	4		4	11	8
Do you feel the amount of food served in school lunch is? a. about right	202	26	40	136		4				3		13		7		9				45		4	26	41		8	14	28
b. too much	20	6	2	12		1				0		2		4		2				6		0	2	1		1	0	1
c. too little	45	1	14	30		1				0		2		0		3				5		0	4	7		0	10	13
Can you get second helpings at school lunch? Yes	243	32	45	166		6				3		17		11		14				53		4	23	49		8	22	33
No	23	0	9	14		0				0		0		0		3				3		0	4	2		0	5	6
If yes, are second helpings free? Yes	241	32	51	158		6				3		11		11		15				49		4	28	47		8	23	36
No	18	1	1	16		0				0		6		0		3				3		0	1	3		1	0	1
Do you have a choice of foods at your school lunch? Yes	68	24	10	34		0				0		0		11		0				27		4	0	1		9	10	6
No	195	9	40	146		6				3		16		0		17				30		0	25	48		0	15	35
If yes. how often? a. every day	12	9	1	2		0				0		0		9		0				1		0	0	0		0	1	1
b. often	22	13	0	9		0				0		0		0		0				9		4	0	0		9	0	0
c. seldom	53	2	11	40		0				0		0		2		0				30		0	0	1		0	11	9
What choices are offered? a. main dishes	11	0	6	5		0				0		0		0		0				3		0	0	0		0	6	2
b. salads	37	20	1	16		0				0		0		11		0				13		0	0	1		9	1	2
c. vegetables	36	15	1	20		0				0		0		11		0				17		4	0	1		0	1	2
d. desserts	22	11	1	10		0				0		0		11		0				3		0	0	0		0	1	7

List your favorite food served at your school lunch?

Spaghetti, Hot Dogs, Chicken, Hamburgers
Pizza, Tacos Fish Sticks

List your least liked foods served at your school lunch.

Spinach, beans, split peas, asparagus, ravioli, saurkraut, potatoes, liver

What are some food not served that you would like to see served at school lunch?

Tacos, steak, french fries, shrimp, fish, chicken

DUE TO THE VARIETY OF ANSWERS THERE WAS NO CONSISTENCY IN THESE QUESTIONS

		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
Do students have any part in:																												
a. planning menus	28	0	4	24		0				0		0		0		0				23		0	2	0		0	2	1
b. decorating lunchroom	30	0	3	27		0				0		0		0		0				22		0	2	2		0	1	3
c. helping serve	119	0	19	100		0				0		1		0		0				30		0	3	47		0	16	22
d. supervising	13	0	2	11		0				0		1				0				7		0	1	1		0	1	2
What part should students have in the school food service?																												
a. serving	67	6	13	48		2				1		2		3		0				18		[illegible]	7	16		0	6	12
b. clean-up	94	19	13	62		0				2		10		5		0				14		[illegible]	7	24		8	6	14
c. plan menu	116	19	26	71		0				1		9		5		0				32		4	8	13		9	18	17
d. decorate	74	15	7	52		5				0		2		3		0				22		2	3	20		5	4	8
e. supervising	41	7	4	30		0				0		5		4		0				11		2	1	5		1	3	9
Circle the word or words below which best describe(s) the following aspects of the food service:																												
ATMOSPHERE: a. hectic	79	10	13	56		4				3		17		0		18				11		1	6	0		2	7	10
b. friendly	194	26	24	144		2				0		15		11		19				40		4	13	45		9	11	25
c. efficient	129	24	9	96		0				0		15		11		20				11		4	3	41		9	6	9
d. courteous	116	23	4	89		0				0		0		11		19				18		4	3	45		8	1	7
e. relaxed	101	21	7	73		0				0		4		11		0				18		1	4	43		9	3	8
f. impersonal	15	0	2	13		0				0		0		0		0				3		0	2	7		0	0	3
g. inefficient	16	1	7	8		0				0		0		0		0				5		0	1	3		1	6	0
h. discourteous	29	0	7	22		0				0		13		0		1				3		0	3	0		0	4	5
LUNCHROOM: a. clean	210	28	33	149		2				2		16		11		18				42		4	16	46		9	17	27
b. orderly	132	23	10	99		0				0		10		11		1				31		3	3	43		9	7	14
c. noisy	210	17	37	156		3				2		11		11		19				53		1	22	42		0	15	31
e. disorganized	13	0	1	12		0				0		0		0		0				6		0	0	1		0	1	5
f. quiet	21	13	0	8		1				1		2		2		0				3		1	0	0		8	0	3
FURNISHINGS: a. cheerful	151	12	27	112		5				3		12		4		0				48		0	14	25		0	13	27
b. drab	82	21	19	42		1				0		4		7		0				8		4	10	17		9	9	13
SUPERVISION: a. about right	187	33	35	119		6				3		9		11		0				45		4	21	42		9	14	23
b. too strict	55	0	10	45		0				0		7		0		15				6		0	3	4		0	7	13
c. too lenient	34	0	7	27		0				0		1		0		1				6		0	3	4		0	4	15
MOVEMENT OF LINE: a. about right	118	28	19	71		6				3		0		6		0				15		4	10	40		9	9	16
b. too fast	0	0	0	0		0				0		0		0		0				0		0	0	0		0	0	0
c. too slow	153	5	31	117		0				0		17		5		16				42		0	17	13		0	14	29
HOT FOOD SERVED: a. right temperature	195	31	35	129		6				3		7		11		5				43		4	18	45		7	17	29
b. too hot	26	1	8	17		0				0		7		0		4				5		0	5	0		1	3	1
c. too cold	49	2	8	39		0				0		2		0		8				8		0	4	6		2	4	15
SALADS SERVED: a. crisp	188	32	36	120		6				3		15		10		9				36		4	23	33		9	13	27
b. limp	78	1	17	60		0				0		1		1		8				20		0	5	14		0	12	17
MILK SERVED: a. cold	232	22	46	164		0				3		14		10		18				54		3	26	42		6	20	36
b. warm	33	5	7	21		0				0		2		1		0				3		1	2	7		3	5	9

FOOD AS SERVED: a. appetizing	168	23	19	126	4	2	0	8	12	39	3	10	47	6	9	28
b. not appetizing	31	4	15	12	0	0	0	2	4	3	1	6	2	1	9	3
c. tasty	174	13	22	139	2	2	16	6	11	39	0	12	46	3	10	27
d. not tasty	32	3	13	16	0	0	0	1	5	4	0	10	1	2	3	6
Do you feel the length of the lunch period is:																
a. about right	186	22	37	127	3	1	4	9	14	37	3	19	45	6	18	27
b. too short	70	7	15	48	1	1	9	2	5	15	1	9	5	2	6	14
c. too long	18	2	2	14	1	1	3	0	1	6	0	1	2	0	1	2
Do you have time to enjoy your meal?																
Yes	229	28	52	149	5	3	5	11	18	46	3	29	48	6	23	32
No	44	4	2	38	1	0	12	0	1	11	1	0	3	2	2	11
Do you like the seating arrangement in the lunchroom?																
Yes	155	24	37	94	6	3	10	3	7	31	4	23	17	8	14	29
No	98	8	77	13	0	0	7	8	10	17	0	6	29	0	7	14
Why? a. you can sit where you want	89	11	34	44	0	0	1	1	1	12	2	20	11	8	14	19
b. you can't sit where you want	63	7	1	55	0	0	9	7	9	16	0	0	17	0	1	4
c. tables are too crowded	45	1	12	32	0	0	4	1	2	10	0	6	7	0	6	9
How would you improve the appearance of the lunchroom?																
Decorate	20	12	8	0		0	0	1	0	0	4	3	0	7	5	0
Paint	4	2	2	0	2	0	0	0	0	0	0	2	0	0	0	0
Do you feel teachers should:																
a. eat the same school lunch as students?																
Yes	215	22	44	149	3	2	15	5	17	39	4	21	40	8	23	38
No	41	5	10	26	1	1	0	3	1	15	0	6	6	0	4	4
b. eat in the same dining room as students?																
Yes	155	27	35	93	5	3	13	8	13	27	4	22	9	7	13	31
No	89	2	6	81	0	0	0	1	2	30	0	3	41	1	3	8
c. go through the same line as students?																
Yes	156	25	43	88	4	1	7	9	10	27	4	23	8	7	20	36
No	79	2	2	75	0	1	1	0	4	28	0	1	36	1	1	6
d. wait in line with students? Yes	135	22	40	73	3	2	14	7	8	17	4	20	8	6	20	26
No	63	4	4	55	1	1	0	2	8	17	0	3	26	0	1	4
Do you think it is important to your health to eat the school lunch? Yes	188	29	37	122	3	3	15	11	14	44	4	22	14	8	15	35
No	55	1	8	46	0	0	0	0	1	6	0	3	30	1	5	9
If yes, why? a. nutrition	130	12	30	88	1	1	14	4	6	33	1	14	12	5	16	23
b. hunger	46	18	10	18	2	2	0	7	1	4	3	7	7	4	3	6
If no, why? a. quantity	20	0	4	16	0	0	1	0	0	2	0	2	11	0	2	2
b. quality	15	0	4	11	0	0	0	0	0	2	0	1	6	0	3	3
c. other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
Do you feel your meals are nutritionally adequate?	Yes	227	31	43	153		6				3		16		10		0				58		4	22	46		8	21	33
	No	20	1	7	12		0				0		0		1		0				2		0	2	3		0	5	7
Do you feel you are knowledgeable about nutrition?	Yes	215	25	43	147		4				3		17		16		14				49		2	22	35		6	21	32
	No	50	4	9	37		0				0		2		0		4				4		2	6	15		2	3	12
If yes, where?	Home	123	9	27	87		1				2		15		0		12				15		1	17	24		5	10	21
	School	111	10	26	75		2				1		12		1		1				32		0	13	19		6	13	11
	Books etc.	26	4	6	16		1				0		3		0		1				6		0	3	4		3	3	2
	Clubs, etc.	10	1	3	6		0				0		1		0		0				1		1	2	3		0	1	1
	Television	51	5	3	43		0				0		11		0		2				4		0	1	11		5	2	15
Does your school newspaper contain articles on: a. school food service?	Yes	65	2	28	35		0				0		0		2		0				12		0	10	11		0	18	12
	No	130	20	18	92		1				1		1		6		2				37		4	12	32		8	6	20
b. nutrition?	Yes	45	1	13	31		0				0		1		1		0				15		0	7	6		0	6	9
	No	156	28	31	97		5				2		2		9		1				38		4	15	29		8	16	27
In general, how do you feel about the school's food service program? a. favorable because of food and service		125	14	25	86		5				3		15		4		6				23		0	19	28		2	6	14
b. favorable but could be improved		86	15	17	54		0				0		0		7		4				12		4	9	17		4	8	21
c. unfavorable because of food or service		18	0	9	9		0				0		0		0		2				2		0	5	1		0	4	4
d. unfavorable for social reasons		18	2	5	11		0				0		0		2		0				1		0	0	3		0	5	7
e. indifferent		10	2	2	6		0				0		1		1		0				1		0	0	2		1	2	2
f. too expensive		53	15	2	36		5				1		14		8		2				7		0	1	4		1	1	9

APPENDIX III

Page

"Everything You Have Always Wanted to Know About Teaching Nutrition but Didn't Know Who to Ask"*. 101

"Thanksgiving Day, 1621"**. 106

---

*School of Home Economics, Montana State University, Bozeman, MT 59715

**School Foodservice Journal

EYHA
WTKA
TNBD
KWTA*

everything you have always wanted to know about teaching nutrition but didn't know who to ask *

April 1976 - - - volume 2, number 2

HELP IS ON THE WAY

Reader response to these newsletters has indicated that many of you want basic information on nutrition and nutrition education. The Montana State University School of Home Economics will be offering two Continuing Education courses this summer, both planned specifically for the elementary teacher.

NUTRITION FACTS AND FANTASIES will be offered at four locations around the state at two different times as follows: June 21-23 in Butte, Kalispell and Miles City and August 9-11 in Glasgow. Each location will cover about the same material and carry one credit. Topics include nutrition and food needs through the life cycle, popular concepts of nutrition, evaluation of nutrition information and misinformation. One credit, $21.00

NUTRITION EDUCATION FOR THE ELEMENTARY EDUCATION TEACHER will be held at Montana State University, July 26-30. It will cover nutrition concerns of the elementary school student, current resources and teaching strategies. Two credits, $42.00.

ALSO OF INTEREST

$¢ ?$?? ¢? ?? TEACHING THE ELEMENTARY CONSUMER? WHAT? HOW?
An "Applied Consumer Education" Workshop will be held July 13-15 at Montana State University. The workshop is available with or without graduate credit and will focus on teaching strategies, resource materials, and evaluation for varying age and clientele groups (elementary, junior-senior high youth, adult). 1 credit, $21.00.

If you want more information about any of the above courses, include your name and address and indicate which course you are interested in when you return the enclosed questionnaire in the stamped, self-addressed envelope.

FRUIT LEATHER

Fruit leather is an ideal snack for children or adults as well as a good energy pickup for hikers and skiers.

Choose fruit that is ripe and full of flavor. Overripe fruit that cannot be salvaged for anything else can be used for fruit leather. The fruit (such as apricots, apples, plums or peaches) may be pureed, measured and stored in containers in the freezer until ready to use.

PROCEDURE:
APPLE FRUIT LEATHER

1) Slowly puree two cups soft (not crisp) apples in blender -- may work best to do small amounts and remove before adding more.

2) Sweeten to taste with honey or sugar. If desired add 1/4 tsp. cinnamon, 1/2 cup coconut, or some other spice.

3) Line cookie sheet (about 17" x 12") with plastic wrap. This size cookie sheet holds about two cups puree.

4) Spread puree evenly over the plastic, but do not push completely to the edges. Leave a bit of plastic for easy removal.

5) Set oven at lowest temperature. Place rack as high as possible. Let dry thoroughly. Roll loosened leather in the plastic and store in paper bags.

6) At home in summer, fruit leather can be dried six to eight hours in the sun.

7) Over drying may cause brittleness -- then you have fruit chips.

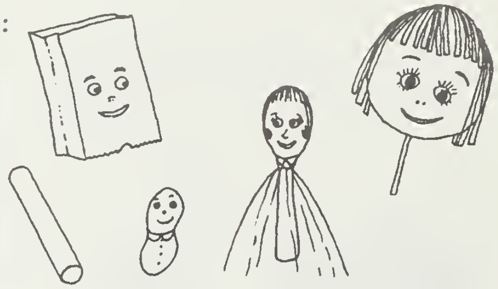
TRY 'EM YOU'LL LIKE 'EM

Puppets can reveal children's feelings, their concepts and understandings about nutrition.

Use easy to make puppets, a "puppet theater" and keep the show to five or six minutes. Older students can make their own puppets and write their own scripts.

Puppet scripts on nutrition topics for kindergarten children can be obtained from: Expanded Foods and Nutrition Program, College of Agriculture, University of Idaho, Moscow, Idaho 83834.

Puppets can be made from:



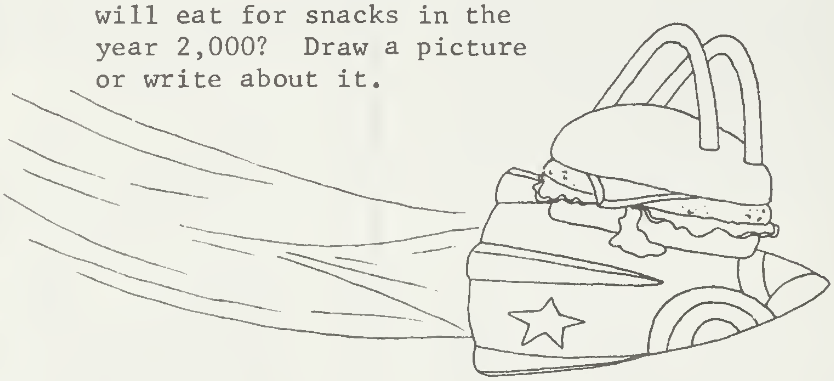
- Paper Bags
- Coat Hangers
- Paper Product Tubes
- Felt
- Paper Mache'
- Moveable Paper
- Sticks
- Peanut Shells
  (finger puppets on ends of fingers with faces painted on the shell)
- Wooden Spoon
  (can use a plastic bag for a dress, draw face on the bowl of the spoon)

CAUTION: these do make excellent weapons if children decide to extend their dramatic play! ! !

TOMORROW STARTS TODAY!

Let's help our students imagine the future.

What do you think children will eat for snacks in the year 2,000? Draw a picture or write about it.



Two burgers and a shake. Experts tell us that someday meat on the table will be a thing of the past. This activity asks kids to imagine that day has come--meat is gone and with it have disappeared all our short-order hamburger restaurants. Working in small groups, have children remake the fast-foods empire in the vegetable image. New names for restaurants--Carrot King, Kentucky Fried Beet--and new menus--spinach shakes, grilled zucchini sandwiches, cornburgers--are in order. Have the students write recipes and tummy-tempting menu descriptions for their new concoctions. (Source: Learning, January 1976)

BUT...CAN YOU EAT IT?

The last issue of EYHAWTKATNBDKWTA included some information about world food problems. At the School of Home Economics, Montana State University, research is being conducted to devise ways of using barley and barley flour for human food. Since barley grows under more marginal conditions than other grains, especially wheat, its production can increase cereal availability. If people can be influenced to eat it, direct utilization of this grain can occur. Some newer strains of barley have higher protein quality and quantity than most wheats, thus a nutritional and agricultural advantage is possible.

The major problem encountered so far in trying to bake with barley flour is that it contains little or no gluten, the structural component of wheat products. This means you cannot knead it, nor does it have much strength. We have produced no-knead yeast leavened bread, noodles, pastry and chipati (flat breads like tortillas).

To illustrate the difficulties in this problem and why barley flour cannot just be used "in a recipe" why not have your students try substituting different flours in bread or quick bread, like muffins or biscuits, and prepare it as written using regular flour. Then prepare it with some different flours available in the supermarket: cornmeal, cake flour, soy flour, etc. Have the students note differences in appearance, texture and taste. They should be able to appreciate some of the difficulties involved not only in this research, but also in trying to get people to change their food intake even in one small area such as type of flour.

Try it - you'll like it!
CLOSED
no thanks!

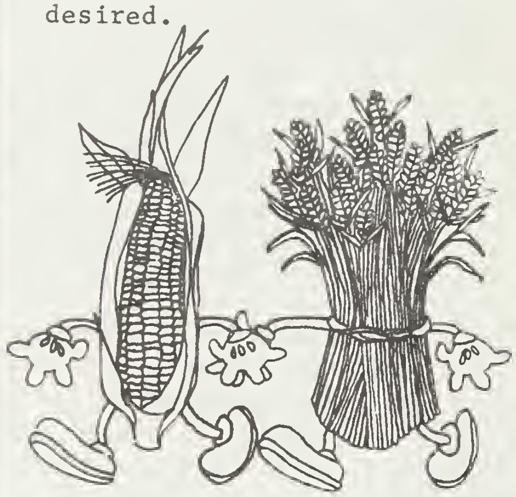
CONCEPT: Attitudes toward food are a culmination of many experiences, past and present. (Source: Teach Nutrition With Bulletin Boards, Nutrition Education Service Center, Montclair State College, Upper Montclair, New Jersey, $1.50)

PEANUT BUTTER PLAYDOUGH

1 cup creamy peanut butter
1 1/4 cups powdered milk
1 1/4 cups powdered sugar
1 cup light corn syrup

Mix all ingredients together. Store in airtight container.

Children can create all sort of fanciful objects -- which can be eaten if desired.



FINGER JELLO

2 1/2 cups cold water
5 envelopes Knox gelatin
2 cups hot water
2 6-oz. packages Jello
1 cup sugar
1 cup ice water

Put cold water in large bowl, add Knox gelatin, let stand. Heat hot water, sugar and Jello, stir until at a boil. Pour into first mixture and stir until dissolved. Add ice water and stir. Put in cake pan. When set, cut in cubes - they will hold their shape. Does not need to be refrigerated.

Source: LEARNING JANUARY 1976 $1.50

Education Today Company, Inc., 530 University Avenue, Palo Alto, California 94301.

OK, I'LL EAT SARDINES IF YOU'LL EAT AN AVOCADO. Give kids a chance to eat something brand new. Take a field trip to a supermarket and have kids (perhaps in small groups) pick out some foods they've never eaten before. It may be chocolate-covered ants, some fruit or vegetable, or a new prepared food. Then have a classroom feast of their exotic foods. As a variation, have kids talk about what they eat at home that is unusual and then bring those foods to class for everybody to try.

WHAT'S NEW

A CHILD'S COOK BOOK (Grades: K-3): 154 Camino Sobrante, Orinda, Calif. 94563. $1.50, plus 25¢ postage and handling. Inexpensive homemade publication of 43 pages. You can select the color of the cover - blue, green, yellow or pink. 39 recipes are included in the book, each yields a single portion. The book is not meant to be used directly by children. The author suggests that teachers reproduce the panels which have recipes, with the ingredients and step-by-step directions and tools.

KIDS COOKING WITHOUT A STOVE by Eileen Paul (Grade 2): Doubleday and Company, 245 Park Avenue, New York, NY 10017, $4.46. Thirty-one recipes, all of which can be prepared without a stove However, a few do call for leftover food which needs to have been cooked along the way. The recipes cover - drinks, desserts, salads, sandwiches, snacks and candies. The recipes are easy to follow with directions for making the food, plus a list of equipment.

MANY HANDS COOKING: AN INTERNATIONAL COOKBOOK FOR GIRLS AND BOYS by Terry Touff Cooper and Marilyn Ratner (Grades 4-6): Thomas Y. Crowell, Co., Children's Books, Dept. SS, 666 Fifth Avenue, New York, NY 10019, $4.68. Includes recipes from many foreign countries. A useful tool for tieing cooking into social studies. Is spiral bound to open flat or stand up on its own.

"FOODS FOR THOUGHT" Classroom activities and study prints which combine food and the Bicentennial. (Can be adapted for all grades) (See Learning, January 1976, pp. 42-51.)

THE HERITAGE SAMPLER: A BOOK OF COLONIAL ARTS AND CRAFTS by Cheryl G. Hoople: Dial, 1975, $6.95. How-to-do-it skills of colonial days from food preparing to candlemaking. Dial Press, Inc., 750 Third Ave., New York, NY 10017.

"THE THING THE PROFESSOR FORGOT" A new coloring book developed by the United States Department of Agriculture, introduces Professor Onoose Q. Eckwouse of Foodology. The professor in poetic form, stresses the need to eat a variety of foods from the Basic Four. For a free copy write: Superintendent of Documents, Consumer Information, Dept. 66, Pueblo, Colorado 81009.

LEARNING SCIENCE THROUGH COOKING by Barbara Davis: Sterling Publishing Co., Inc., New York, NY. Useful tool for tieing cooking into science. Covers osmosis, combining heat with liquid, separating with liquid, starch cookery, fats and enzymes and taste and smells. The recipes were chosen to illustrate and explain science. They are easy to prepare and have simple instructions.

HELP US EVALUATE OUR NUTRITION NEWSLETTER

DIRECTIONS: Rate each item found in the Newsletter on a scale of one to three. One indicates the least helpful item and three indicates the most helpful. Place this sheet in the enclosed self-addressed/stamped envelope. Please PLEASE return by April 26, 1976.

NEWSLETTER ITEMS:	Least Helpful		Most Helpful
1. Workshop Information - - - - - - - - - - - - - - - - - -	1	2	3
2. Fruit Leather - - - - - - - - - - - - - - - - - -	1	2	3
3. Try'Em You'll Like 'Em - - - - - - - - - - - - - - - -	1	2	3
4. Tomorrow Starts Today - - - - - - - - - - - - - - - -	1	2	3
5. But . . . Can You Eat It - - - - - - - - - - - - - - -	1	2	3
6. Peanut Butter Playdough - - - - - - - - - - - - - - -	1	2	3
7. Finger Jello -	1	2	3
8. Bulletin Board - "Try It - You'll Like It" - - - -	1	2	3
9. What's New -	1	2	3

Please complete the following by checking the appropriate spaces:

GRADE TAUGHT:	_____K	_____4th	SIZE OF	_____less than 39	_____200-399
	_____1st	_____5th	SCHOOL: (# of	_____40-99	_____400 & up
	_____2nd	_____6th	pupils)	_____100-199	
	_____3rd	_____7th			

COMMENTS: ____

____

____

____

Thanksgiving Day, 1621

By E. Neige Todhunter, Ph.D.

Each November Americans eagerly look forward to Thanksgiving, the national holiday when we sit down to the traditional dinner of turkey, cranberry sauce, and pumpkin pie along with all those good foods that each family adds as its own traditional specialty. Thanksgiving is a truly American custom, complete with traditional American foods. They were unknown to the rest of the world until after the voyages of Columbus and the discovery of the American continent.

In this Bicentennial celebration year, our thoughts turn to our own country, our founding fathers, and some of the things Thanksgiving should mean to us. It is natural to think of food during this period because it is basic to life for us all. It is just as natural to think of that special dinner in the fall of 1621 when the Pilgrims felt they, at last, had enough food and time for celebration.

What a year of perilous voyage, hardships, sickness, death, cold, hunger, and search for food the Pilgrims endured. They had left Plymouth, England in September 1620 in the *Mayflower* intending to go to Virginia.

Though a small sailing vessel, little is known today about the original *Mayflower*, except that it probably weighed about 180 tons and measured around 90 feet long. The 101 passengers (some writers say 102) were crowded with all their belongings in the narrow space between decks, and there they sat, slept, and ate the provisions they had brought with them. In that space they lived, or we might better say survived, for a rough, stormy 60-day voyage before land was sighted in November.

But that land was not Virginia. It was Cape Cod. There the ship anchored. Small groups of men ventured ashore searching for suitable land to settle and establish their colony, or plantation, as they called it. By the end of December, after finding a good place, all passengers were ashore and starting to build their new homes.

It was not a severe winter for that region but the newcomers were cold, weary and often hungry. They had no fresh food and "many died from scurvie and other diseases", according to the early writers. Not until the summer brought greens and fruits would they have vitamin C to protect them from scurvy.

In March 1621 these first settlers were befriended by Samoset, an Indian who spoke a few words of English, and Squanto, another Indian who knew English well. They made a peace treaty with King Massasoit whose tribe lived some 40 miles away. The Indians gave their white neighbors seed corn and showed them how to plant it and fertilize it with fish. Indian corn, as the Pilgrims called it, but more correctly maize (Zea *mays*), was new to them. Native to America, maize is unknown in Europe, but it became the mainstay of the Pilgrims' diet. They ate it fresh and cooked with beans (succotash) and used the dried ground meal in all kinds of ways.

That first summer was a good one. The corn crop was plentiful. Fish were abundant along the shore. And there were wild turkeys, quails, pigeons, wild ducks, and other birds. Gooseberries, strawberries, plums, and nuts grew wild so the Pilgrims had much to be thankful for when autumn came. Edward Winslow, one of those first colonists, wrote in a letter: "Our harvest being gotten in, our Governour sent foure men on fowling, so that we might after a more special manner rejoyce together, after we had gathered in the fruits of our labours; the foure in one day killed as much fowle, as with little helpe beside served the Company almost a week at which time amongst other recreation we exercised our Armes."

Only about 55 of the *Mayflower's* passengers survived to sit down at that Thanksgiving dinner and of these only five were women. With few utensils they must have worked hard to cook the dinner. Massasoit, the friendly Indian king, had been invited and he came, bringing 90 of his men with him! But they were helpful guests because "they went out and killed five deer". So there was plenty of food—and work for the women!

The early pilgrims were plain men of moderate abilities who made friends with the Indians and dealt with them with tact, kindliness, and fairness. They were not called Pilgrims until at least two centuries after that first Thanksgiving. Their contemporaries gave the name "Old Comers" to those who arrived on the *Mayflower* and the next two ships *Fortune* and *Anne*. Later generations referred to them as "Forefathers". It was Daniel Webster in 1820 who called them "Pilgrim Fathers" and this has been common usage ever since.

For many years Thanksgiving was infrequently a recognized holiday. More than a century ago Sarah Hale, editor of Godey's *Lady's Magazine*, tried to persuade governors, congressmen, and presidents that Thanksgiving should be an established national holiday. She kept at it for more than 30 years, and finally in 1863, President Lincoln proclaimed the last Thursday in November as Thanksgiving Day and a national holiday.

That Thanksgiving day, as well as Thanksgiving Day 1975, is celebrated with a feast, resplendent with the many foods that are unique to the Americas: corn (maize), sweet potatoes, pumpkin and various types of squash, potatoes (sometimes referred to as Irish or white potatoes), tomatoes, cranberries, cocoa and chocolate, many kinds of beans (limas, string, kidney, navy. In fact all the edible beans except the broad beans of Europe and soy beans of the Orient), peanuts, pecans and cashew nuts, pineapples, maple syrup, and turkeys. These are all native American foods.

Pilgrims survived their first year in Plymouth thanks to the food the land provided—foods that were new to them but foods, of necessity, they had to learn to like. Now we enjoy many of these foods, not just at Thanksgiving, but in our daily diets.

Dr. Todhunter is now a visiting professor of nutrition at Vanderbilt University School of Medicine in Nashville, Tenn. A renowned nutritionist, Dr. Todhunter has contributed significantly to the world's nutrition knowledge and the meaning of food. She recently spoke on the latter subject at ASFSA's 29th annual convention in Chicago.

Reprinted with permission of ASFSA - October 1975

First Thanksgiving Teaches American Food History

When the first settlers arrived on American shores, they were faced with learning to cultivate and eat unfamiliar foods. Now these same foods are familiar at all family meals whether everyday or special occasion fare. These classroom activities, designed around the First Thanksgiving menu, will teach students about the origins of some of our favorite foods.

By Susie Washington, R.D., ASFSA Nutrition Committee,
School Foodservice Supervisor, Detroit Public Schools, Detroit, Michigan.

Theme

First Thanksgiving

Time Period—1620

First Thanksgiving proclamation in America was issued by Governor Bradford of the Plymouth Colony in the autumn of 1621. This event marked the culmination of the first harvest in the New World. Hunters provided a number of wild turkeys for the feast. On the appointed day, a party of Indians arrived bringing a supply of venison. On that day, the first Thanksgiving Day in America, Pilgrims and Indians sat down together to give thanks for the blessings of a bountiful harvest.

It was not until 1863 that Thanksgiving Day as a national holiday was established by President Lincoln. This event came about largely through the life-long campaign of Sarah J. Hale of Philadelphia. She carried her plan to President Lincoln and won his support. The official Thanksgiving Proclamation was issued on October 3, 1863.

Important Food History of Era

Many years before the *Mayflower* swung around the top of Cape Cod and anchored in what is now Provincetown Harbor, the Indians had developed Zea *mays* (Indian corn or maize), thus giving the world one of its finest foods and most valuable crop. Corn flourished in all kinds of soils and under many kinds of conditions. Indians gave the corn many different names, but the ultimate meaning was always the same—"our life".

Thomas Hariot and other early English explorers of the New World were amazed at the Indians' agricultural knowledge. For example, they found, "By experimenting, the Indians learned that maize grew best if four seeds were planted close together in a circle, in small 'hillocks', running in rows about the same distance apart. They timed the planting so that they grew three crops a year. Along with maize, the Indians planted 'okindgier' (beans), the vines of which caught hold of the corn stalks and used them as bean poles to climb up into the sun."

Man has always depended upon the soil, the woods, the forest, and the waters around him to yield his foods. From the forest came all kinds of fruits, nuts, and berries. Edible roots included the sweet potato and other tuberous roots that could be dried and stored during the long winter. The Indians boiled nuts and corn to make a kind of milk. They taught this procedure to the Pilgrims, and the substance could also be used in cooking. From the forest came the Pilgrims' meat supply such as deer, elk, moose, bear, rabbits, opossums, coons, and squirrels. From the air came birds by the billions—pigeons, ducks, geese, grouse quail, curlews, planers, sandpipers, snipes, and woodcocks. From the waters came shellfish of all kinds—clams, crabs, lobsters, turtles, and turtle eggs. In 1672 John Josselyn, in his *New English Rarities,* published more than 200 kinds of fish caught for eating purposes in the northern waters, including hake, flounder, cod, mullet, and sheephead.

The Pilgrims learned by trial and error that all herbs, shellfish and other items found in the New World could not be eaten. Some caused them to "cast and scoure", according to Edward Winslow.

Squanto, the Pilgrims' Indian guide and friend, taught them to use dead fish as fertilizer. Had it not been for Squanto, the whole colony would have probably died. Even at that, only about half of the Pilgrims survived the long, hard first winter.

The real Thanksgiving meal probably consisted of something like this: waterfowl, venison, duck, clams, smoked eels, cornbread, leeks, watercress, wild plums, dried berries, wild grape wine, maple syrup, assorted nuts, pond lillies or tuckahoe root hoecakes. This first Thanksgiving was a gala occasion and went on for three days, enlivened with games of chance and skill and food that knew no refrigerators, ovens, radar ranges, freezers, fortification, or enrichment.

Goal

This lesson is to acquaint students with the facts about the traditional feast day of Thanksgiving and to give them some background information on how dependent man is on his environment for his basic needs. Students will learn how the Pilgrims, Indians and early English explorers are linked to American heritage. The activities offer numerous opportunities for students to include Bicentennial in

Thanksgiving

geography, science, health, and art. What better way to celebrate our nation's 200th birthday than capturing the colonial spirit of the first Thanksgiving.

Bicentennial Classroom Activities

Early Elementary Schools

Objectives

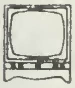
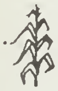
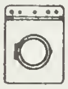
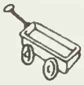
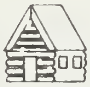
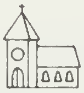
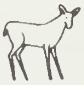
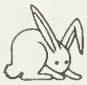
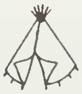
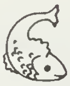
1. Students will be able to identify three foods that we eat today that the Indians introduced to the Pilgrims.
2. Students will be able to name three new food preparations that the Indians taught the Pilgrims.

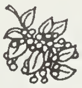
Activities

1. Have students plan a menu of today, using pictures from magazines or drawings of foods used by early Pilgrims. Use accompanying article for background information. 4,5 1,3
2. Have students string and dry cranberries as the Indians taught the Pilgrims. 1
3. Have students make cornbread and act out a Thanksgiving story. 1,2,7
4. Have students compare wild rice and white rice. 7

Evaluation Techniques

1. Pre-test: Have students recite food we have today that Pilgrims did not. Follow with class discussion comparing differences.
2. Post-test: Have students draw the foods the Indians introduced to the Pilgrims. Have student tell about one new idea they learned about the first Thanksgiving.
3. Directions: Circle the picture of the items that *were not* in use or had not been invented during the time of the Pilgrims and the Indians.



Upper Elementary and Middle Schools

Objectives

1. Given a list of early Indian terms or words, students will identify the present English equivalent.
2. Given a group task, students will plan and build a miniature replica of an Indian village.
3. Students will research one area or person of early colonial life and prepare a written report.

Activities

1. After researching Indian life, construct a replica of an Indian village. Heavy wrapping paper and dowels can be used to build a tepee. (The tepee is a conical tent used by plains Indians. It was built on a framework of poles, covered with buffalo skins—a dozen or more poles were used, ranging in length from 12 to 18 feet. The cover was in one piece, made with 12 or more buffalo skins. The tepee was decorated with pictures symbolic of Indian lore. The door was usually an oval opening, facing the east. The two earlike vanes, held in place with poles on the outside of the lodge, served as a smoke hole on the top of the tepee. By moving these poles about, the draft could be regulated and the tepee kept free of smoke. The whole tepee could be dismantled and transported from place to place. 1,2,3,7 1,3,4
2. Obtain as many food items that could have been used during the days of the early Pilgrims. Using 3" x 5" file cards, print the Indian name or early European name for them. Set up a display of these items.
3. Develop and write a play based on the characters each student researched. 1
4. Compare what the Indians and Pilgrims ate for Thanksgiving with our typical Thanksgiving meal. 2,4,7 1,2,3

Evaluation Techniques

1. Using the basic four food groups, place the items from the real first Thanksgiving meal in the proper group. Although the basic four had not even been imagined during 1620, surprisingly, a well-fed Pilgrim or Indian at Thanksgiving time had a fairly balanced meal, with the exception of

Reprinted with permission of ASFSA - October 1975

one item. Can you figure out which one? Food items that might have been eaten at the real first Thanksgiving dinner:

- Waterfowl
- Watercress
- Dried berries
- Leeks
- Duck
- Wild grapes
- Assorted nuts
- Cornbread
- Clams
- Venison
- Wild plums
- Maple syrup
- Smoked eels
- Tuckahoe root (hoe cakes)
- Pond lillies hoecake

Group I	Group II	Group III	Group IV
Milk Group	Vegetables and Fruit	Meat Group	Bread and Cereals

2. Using the following as a pre-test and post-test, compare the student's scores *before* and *after* activities are complete.

Part I. Directions: Place a T on line if the statement is true and an F if it is false.

____ 1. The first Thanksgiving dinner was identical to what is traditionally served on Thanksgiving today.
____ 2. The Pilgrims knew more about farming than the Indians.
____ 3. The first winter was a hard one for the Pilgrims and many of them died.
____ 4. The *Mayflower* was about half the size of a luxury liner.
____ 5. The Pilgrims lived in log cabins that were poorly constructed and had no sanitary facilities.
____ 6. The Pilgrims found that it was very wise to make friends with the Indians.
____ 7. The Pilgrims and Indians ate Thanksgiving dinner early in the afternoon, so that they could watch the football game on television between the Plymouth Hard Rocks and the English Limeys.
8. The Pilgrims learned by trial and error that they could not eat every herb, berry, root, shellfish and fowl that they found in the New World.
9. The real Thanksgiving Proclamation was signed by President Lincoln on October 3, 1863.
10. The early settlers brought commercial fertilizers, tractors, and cultivators with them, so that they could grow bountiful crops.

Part II. Directions: Find the correct word or words from List B and place it on the line next to its correct English equivalent in List A.

List A (English)

1. Beans ____________
2. Wheat ____________
3. Melons ____________
4. Peas ____________
5. Pumpkins ____________
6. Sunflowers ____________
7. Indian corn ____________
8. Succotash ____________

List B (Old European or Indian)

- wickorzowr
- macocqwer
- Zea *mays*
- pagatowr
- mellions
- Planta solis
- okindgier
- misickquatash

Key to evaluative test (Part I—True or False):

1. F 2. F 3. T 4. F 5. T 6. T 7. F 8. T 9. T 10. F

Key to evaluative test (Part II—Matching words):

1. beans-okindgier
2. wheat-pagatowr
3. melons-mellions
4. peas-wickorzowr
5. pumpkins-macocqwer
6. sunflowers-Planta solis
7. Indian corn-zea mays
8. succotash-misickquatash.

Junior and Senior High Schools

Objectives

1. Given a list of early Indian terms or words, students will identify the present English equivalent.
2. Students will research the agricultural techniques and geographical conditions of the period. With this information teams of students will design and build a replica of an Indian and Pilgrim village.
3. Students will research a specific colonial character of the time and if possible compare this individual to another prominent American.

more

Thanksgiving

Activities

1. After completing research on the period, construct a replica of an Indian and Pilgrim village. This could become the American heritage project for the Bicentennial. 📖1,2,3,7 👤4
2. Divide the class into nine groups. As a research project assign each group to write a biographical sketch of Thomas Hariot, Edward Winslow, Captain John Smith, John Josselyn, Squanto, Massasoit, Captain Myles Standish, Christopher Jones and Sarah H. Hale. Class presentation. should include as much initiative, imagination, and creativity as possible. Role playing, dramatization, or any other technique should be used to create discussion and involvement. 📖1,7,6
3. The Indians placed their seeds, rather than sowed them. They got a much better yield than the Pilgrims. Recently, various seed companies have placed seeds in a biodegradable strip, equal spaces apart. The strips may be planted in a mixture of soil, vermiculite and peat moss. Construct a planter box. Plant a strip garden of leaf lettuce, spinach and swiss chard. In four to five days, the seed will come up. Keep them in a sunny place and keep them watered. In a few weeks you can make a salad from the plants in your own planter box. Consult your local nursery for details and supplies needed for strip gardening. Check with the school foodservice manager about borrowing utensils for cleaning, preparing and eating your salad. 📖7 👤1
4. See activity 4 under Upper Elementary and Middle Schools for additional suggestions.

Evaluation Techniques

1. Develop an essay test from the list of names of persons who made significant contributions to the lifestyle of the early Pilgrims or to the perpetuation of the festival celebration of Thanksgiving Day. Write a brief paragraph, relating the contribution that each person made, either to Thanksgiving or general American culture.

    Thomas Hariot
    John Josselyn
    Captain Myles Standish
    Edward Winslow
    Squanto
    Christopher Jones
    Captain John Smith
    Massasoit
    Sarah H. Hale

2. Have students unscramble the words in Part II test of the Upper Elementary evaluation.
3. Have volunteers teach a basic Thanksgiving lesson to a primary class.

References

Books, Articles, Pamphlets

1. *The American Peoples Encyclopedia* (1952). Walter Dill Scott and Franklin J. Meine. The Spencer Press, Inc., Chicago, Illinois.
2. *The American Heritage Cookbook,* published by American Heritage Publishing Company, Inc., Simon and Schuster, Inc.
3. *Organizing Course Materials* (1961). Harold, G. Silvius and Ralph C. Bohn. McKnight and McKnight Publishing Company, Bloomington, Illinois.
4. "Food Models" B012A, National Dairy Council (NDC). Order from local Dairy Council, Inc.
5. "A Guide to Good Eating" P505, NDC. Order from local Dairy Council, Inc.
6. "Why Do You Need Vitamin C?" State of Florida, Department of Citrus, Lakeland, Florida.
7. Other encyclopedias and history texts.

Films, Filmstrips

1. "Heritage of Flavor". Ocean Spray Cranberries, 16mm, 25 minutes, color. Orientation to cranberries, can be used with all audiences. Available from ASFSA Media Service, 4101 E. Iliff Ave., Denver, Colo. 80222. $4 rental.

People Resources

1. School foodservice manager, supervisor, or director.
2. Local hospital or consulting dietitian.
3. Home economics teacher.
4. Art teacher.

Reprinted with permission of ASFSA - October 1975

APPENDIX IV

Page

Nutrition Education Workshop Outline, 1974. 112

"Nutrition in a Nutshell", 1975. 113

Nutrition Education Workshop. 116

A flyer sent principals of elementary schools from School Food Services concerning the Nutrition Education Workshop. 118

Application form for the Nutrition Education Workshop. 119

News Article about statewide Nutrition Education Workshop. 120

"Type A is Nutrition". 121

Nutrition Education Workshop, 1976. 122

"Truth, Tales and Teaching Techniques". 123

NUTRITION EDUCATION WORKSHOP OUTLINE
for OSPI Regional Workshop
1974

Greet Participants

- Name Tags
- Registration Sheet
- Do Pre-Test

Introduction

- Welcome
- Why this nutrition education workshop is offered - encourage participants to improve their nutrition background, this is not a training session in nutrition rather a session to introduce the guide.

Why nutrition education?

- Health problems
- Relation to other subject matter
  - motor development
  - sensory experiences
  - language skills

School Food Services

- Present system
- Attitude of teachers
- Free and reduced price of meals

Review pre-test

Curriculum guide and activity - select three activities - give prize

- How it was developed
- Continuity of K-6

S.F.S. Nutrition Education concepts bulletin

Bibliography (in nutrition guide), nutrition references - display reference - addresses

People resources available in school, community and county - group participation

Questions and Evaluation of Workshop by participants

Summary - teachers commitment

"NUTRITION IN A NUTSHELL"

90 MIN.
Regional Workshop-1975

Objectives:

1. To make teachers aware of the importance of nutrition education.
2. To have administrators and teachers become aware of State staff nutrition education personnel.
3. To supply teachers with some methods of teaching nutrition education.
4. To inform teachers of School Food Service programs.
5. To offer teachers an opportunity to share ideas and experiences related to nutrition education.
6. To have teachers develop a feasible Nutrition Education Project for the school year.
7. To make teachers aware of available resources.
8. To have a follow-up plan.

****

Registration

Use name tags, registration forms.

Introduction:

1. Introduce self, other staff, guest, and have participants introduce themselves.
2. Recorder for group.

Whys of Nutrition Education? (lecture)

1. Medical reasons - anemia, dental, obesity (1/3 children, 1/2 adults), short necessary nutrients (iron, calcium, vitamins A and C)
2. NOT all Americans are well fed - short in total days calories, foods cost too much, less regular meals and more snacking
3. Lack basic nutrition knowledge to make appropriate food choices-economical and for health; presently not taught in many schools; media offers much misleading nutrition information
4. Breakfast skipped by many including 60-80% of school children; parents or students don't understand the need for breakfast (Iowa survey)

Philosophy of School Food Services: (lecture)

1. Child Nutrition Programs - Special Milk, Breakfast, School Lunch, Food Distribution, Non-food Assistance, Nutrition Education
2. Type A Lunch - Basic 4, should meet 1/3 of a 10-12 year old RDA requirements

3. School Food Managers available resources - Food Buying Guide, quantity recipe cards, cafeteria, kitchen, food items, workshop training

How to Organize a School Nutrition Education Program

1. Attitudes (from survey)
2. Determine need for nutrition education
3. Areas of nutrition to emphasize
4. Behavioral objectives
5. School or student committee
6. Involve - parents, students, school food managers, community, state office, administrators, teachers
7. Have a plan of action
8. Method of showing results

Nutrition Education (popcorn session)

1. What is the Nutrition Education Guide? How can it be used? What are the grade levels? How is it layed out?
2. What are some teaching techniques you can use in teaching nutrition education? music, drama, other subject areas, puzzles, experiments, tasting parties, puppets, films, growing things, animal experiments, tours, family experiences, local resource people, role playing, discussions
3. How can the School Lunch menus relate to classroom activities? Bicentennial, holidays, school events
4. In what ways are we concerned about sanitation in teaching nutrition education? personal cleanliness, child's health at the moment, equipment, food, preparation methods
5. Sense Perception Party - (write answers on piece of paper) have samples of: flour, powdered sugar, salt, sugar, baking powder, cornstarch, baking soda

Film "Read a Label, Set a Better Table"

Questions and Answers

Evaluation

1. Use form and turn in (a sample is included as page 108)

****

Handouts

Packet - Nutrition Education Guide, Discovering Vegetables, Nutrient poster, Basic 4 chart, Bingo game, Early Eating Habits, Garbage can design, two activity sheets (crossword and quiz), nutrition in other subject areas

Items to Take

registration sheets - pencils
name tags - pins - marking pens
handouts - display items
camera
garbage can (decorated - paint or contact paper)

"NUTRITION IN A NUTSHELL" - REGIONAL WORKSHOP EVALUATION

1. What do you consider the most important part of this workshop? ____________

2. What part did you feel was a waste of your time? ____________

3. What part(s) will you use in the classroom? ____________

4. Was the length of this workshop: too long too short alright

Please check how you rate the following:	I'll teach this	Useful	Somewhat interesting	Not important
5. School Food Services philosophy......				
6. Child Nutrition Programs............				
7. Type A lunch and Basic 4 foods.......				
8. Nutrition Education packet..........				
9. Teaching techniques.................				
10. Relating menus to classroon activity.				
11. Food Sensory Perception.............				
12. Organize a Nutrition Education program				
13. Guest speaker and idea exchange......				
14. Resource display....................				

15. General comments: ____________

ACKNOWLEDGEMENTS

Who's Who:

Ms. Mary K. Peryam	Instructor Foods & Nutrition Department of Home Economics Montana State University Bozeman, MT 59715
Mrs. Jeannine Atkins	School Food Manager Shelby Schools Shelby, MT 59474
Mrs. June Soulsby	Expanded Food & Nutrition Youth Supervisor County Extension Office Billings, MT 59101
Mrs. Cynthia Evans	Expanded Food & Nutrition Youth Supervisor County Extension Office Butte, MT 59701
Ms. Ann Ferguson	Nutrition Education Specialist Office of the Superintendent of Public Instruction Helena, MT 59601

A special thanks to the members of the American Dairy Association of Montana for the tasty dairy treats.

Arrangements:

University of Montana - Missoula, MT

THANK YOU FOR COMING.

WE HOPE YOU HAD FUN WHILE LEARNING

F5105-021023-5/75

NUTRITION EDUCATION WORKSHOP

JUNE 12-13, 1975 UNIVERSITY OF MONTANA, MISSOU

SPONSORED BY THE OFFICE OF THE SUPERINTENDENT OF
PUBLIC INSTRUCTION, DOLORES COLBURG, SUPERINTENDENT
CAPITOL BUILDING, HELENA, MONTANA 59601

June 12
(afternoon & evening)

1:00	"Objectives of Nutrition Education Workshop" Mary K. Peryam
1:15	"Understanding and Your Attitudes" "Basic Nutrient Information" Mary K. Peryam
3:00	"Tasting Party" Ann Ferguson
3:15	"Nutritional Needs of Children" Mary K. Peryam
4:30	"Type A Meal Pattern" Ann Ferguson
5:00	Dinner (no host)
7:00	Resource Materials Exhibit and Group Discussion (sharing ideas) Mary K. Peryam
9:00	DAYS END

June 13
(all day)

7:15 a.m.	Breakfast at University of Missoula cafeteria (no host) Copper Commons Room
8:00	"Health Foods" Mary K. Peryam
9:00	"Snacks - Advertising - Labeling" Mary K. Peryam
10:15	"Energy Break - Make It Fun" June Soulsby
10:30	"Weight Control" Mary K. Peryam
11:30	School Food Service and Weight Control including class activities Ann Ferguson
12:00 noon	Group lunch (no host) - Cafeteria Activities Ann Ferguson
1:00	"Nutrition Education and School Food Service Jeannine Atkins
2:00	"Additional Resources" Mary K. Peryam
2:30	Workshop Critique - evaluation Mary K. Peryam
3:00	"Dairy Delight" Cynthia Evans
3:15	Prepare Nutrition Education project curriculum (lesson plans) Mary K. Peryam
5:00	DAYS END

May 9, 1975

TO: County Superintendents
Elementary Principals

FROM: H. Brisbin Skiles, Supervisor
School Food Service

RE: Nutrition Education Workshop

The Office of the Superintendent of Public Instruction and the University of Montana are co-sponsoring a Nutrition Education Workshop on June 12-13, 1975. This workshop is intended primarily for elementary teachers (K-8) and is part of a National Nutrition Education Project in which Montana is participating. This workshop follows immediately after a nutrition conference sponsored jointly by the Montana Beef Council, the American Dairy Association of Montana and the University of Montana.

The Nutrition Education Workshop is as follows:

Topic: Teaching Techniques for Nutrition Education
Date: June 12 and 13, 1975 (beginning 1 p.m. on the 12th and continuing through to 5 p.m. on the 13th)
Place: University of Montana, Missoula
Credit: One graduate or undergradate for attendance and individual follow through project.
Purpose:
1. To plan and demonstrate how nutrition education can be included in other ongoing curriculum areas using the schools food service facilities as a laboratory.
2. To offer teachers basic nutrition information and develop innovative teaching methods.
3. To have teachers develop a nutrition education project for their school or class that involves other teachers and school food managers.

A maximum of 40 teachers attending the Nutrition Education Workshop will receive a stipend of $40.00 from the Office of the Superintendent of Public Instruction project funds. Participants are encouraged to attend both the workshop and the conference. Information regarding the conference is enclosed. Living arrangements are identical for both areas.

If you have any questions, please let me know.

Deadline May 15th

APPLICATION

Name ______________________________

Address ____________________ Phone ______________

____________________ Zip ______________

School ______________________________

Grade level teaching ______________

I am interested in $40.00 stipend: _____ Yes _____ No

College credit: _____ Yes _____ No

Return to: Ann Ferguson
Nutrition Education Specialist
Office of the Superintendent of Public Instruction
Helena, MT 59601

F5085-02102305/75

Deadline May 15th

APPLICATION

Name ______________________________

Address ____________________ Phone ______________

____________________ Zip ______________

School ______________________________

Grade level teaching ______________

I am interested in $40.00 stipend: _____ Yes _____ No

College credit: _____ Yes _____ No

Return to: Ann Ferguson
Nutrition Education Specialist
Office of the Superintendent of Public Instruction
Helena, MT 59601

F5085-021023-5/75

6--The Sunday Missoulian, June 1, 1975

Conference on Nutrition Scheduled for UM

A nutrition conference on the theme "New Frontiers in Nutrition — Truth , Tales and Teaching Techniques" will be held June 10-12 at the University of Montana.

Conference registration for those who have not preregistered will be at 11 a.m. June 10. Presentations, designed especially for teachers from kindergarten through the 12th grade, school food-service personnel. extension personnel and school and public health nurses, will be in the University Center Ballroom.

A number of physicians also will participate.

Registration fee for the entire conference is $15. Interested nonstudents can participate in the individual sessions for $2 a session. The fee for students will be $1 a session. A banquet scheduled for June 11 will be $7.50.

Nutrition conference committee co-chairmen are Dr. Andrea Pagenkopf, Bozeman, nutrition consultant, Cooperative Extension Service, Montana State University, and Mrs. Sara C. Steensland, Missoula, chairman of the UM Department of Home Economics.

Mrs. Steensland said persons can receive one graduate or undergraduate credit for completing the conference. Credit is given through the UM Center for Continuing Education and Summer Programs. There will be a $21 fee for academic credit.

Ronald M. Deutsch, Laguna Beach, Calif., an author, lecturer and educator who is director of the National Nutrition Exchange, will open the conference with a talk entitled "Nutrition 1-2-3" at 1:30 p.m. June 10. Following his formal presentation, he will lead a discussion entitled "Nutrition Boomerang."

Speakers scheduled for June 11 will include George V. Mann, M.D., associate professor of medicine at Vanderbilt University, Nashville, Tenn., who will speak on "Cholesteremia" at 8:30 a.m. and then lead a discussion entitled "Diet in Relation to Heart Disease." Nancy R West, Phoenix, Ariz., an educator in the field or nutrition, will discuss "Behavioral Objectives — Goals in Nutrition Education" at 1 p.m. and then conduct nutrition workshop sessions for elementary and high school teachers and school lunch personnel.

Keynote speaker at the conference banquet at 7 p.m. June 11 in the UC Ballroom will be Myron Winick, M.D., New York, N.Y., director, Institute of Human Nutrition, Columbia University College of Physicians and Surgeons, who will discuss "The Vital Effect of Nutrition on the Development and Growth of Children."

Dr. Philip A. Lofgren, Chicago, assistant director of nutrition research, National Dairy Council, will discuss "Nutrition Labeling" at 8:30 a.m. June 12 in the UC Ballroom. Presentation of a film entitled "Read the Label — Set a Better Table," starring Dick Van Dyke, will follow Lofgren's talk.

The conference will end at noon June 12 following a conference evaluation and distribution of educational resource materials.

Conference sponsors include the state Department of Public Instruction, the Cooperative Extension Service at MSU and the UM Department of Home Economics, in cooperation with the American Dairy Association of Montana and the Montana Beef Council.

PROGRAM

TYPE A IS NUTRITION

Saturday Morning, November 2, 1974

8:15- 9:00	Registration and Coffee
9:00- 9:15	Welcome Announcements Montana School Food Association Bris Skiles
9:15-10:00	"Food Handling Procedures"-Mike Clasbey Pondera County Sanitarian
10:00-10:15	Coffee
10:15-11:00	"Baking Demonstration"-Mary Jane Horne
11:00-11:45	Exchange of Favorite Menus and Cooking Hints
11:45-12:30	Menu Evaluation Nutrition Education-Ann Ferguson

Saturday Afternoon, November 2, 1974

12:30- 1:15	Lunch and Tasting Bee Courtesy: Conrad Primary, Brady Elementary, Shelby and Oilmont
1:15- 2:15	Record Keeping and Meal Costing
2:15- 3:15	Improving participation Exchange of Ideas and Concerns

SCHOOL FOOD SERVICES AREA WORKSHOP PERSONNEL

Who's Who on the Program

Mike Clasbey	County Sanitarian-Pondera
Mary Jane Horne	School Food Manager/Cook Heart Butte School
Dorothy Ronns	School Food Manager/Cook Brady School
Willma McFadden	School Food Manager/Cook Oilmont School
Jeannine Atkins	School Food Manager/Cook Meadowlark School-Shelby

State Staff Sponsoring the Workshop

Brisbin Skiles	Supervisor, School Food Services Helena
Ann Ferguson	Nutrition Education Specialist School Food Services, Helena

Arrangements

Anita Goodrich	School Food Manager/Cook Meadowlark Primary School-Conrad

THANK YOU FOR COMING, WE APPRECIATE YOUR ATTENDANCE!!!

NUTЯITIOИ
EDUↃATIOИ

NOTHING IS EASY
AT FIRST!

HELP IS ON THE WAY!

NUTRITION EDUCATION WORKSHOP

HE-P 501- Incorporating Nutrition Education into Elementary School Curriculum

When: July 26-30, 1976

Where: Montana State University

Credits: Two MSU Graduate Credits

Fees: $42 (credit or non-credit)

Instructor: Mary K. Peryam

Topics: Nutritional needs of children

Facts and fallacies in nutrition

Educational resources available

Teaching ideas, techniques and strategies

Current nutritional trends

For further information, Contact:

School of Home Economics
Montana State University
Bozeman, MT 59715

ENROLLMENT FORM

(Detach and return by July 1, 1976)

I plan to attend HE-P 501: Incorporating Nutrition Education into Elementary School Curriculum.

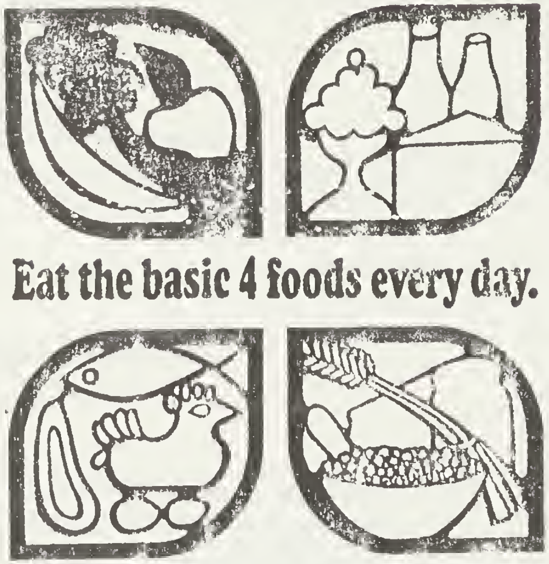
Name ______________________________

Address ______________________________

City, State and Zip Code ______________________________

Please return to: School of Home Economics
State University

New Frontiers . . .
In Nutrition!


Eat the basic 4 foods every day.

Truth, Tales and Teaching Techniques

June 10-11-12, 1975

UNIVERSITY OF MONTANA
UNIVERSITY CENTER
MISSOULA, MONTANA
59801

University of Montana
Department of Home Economics
Missoula, Montana 59801

Purpose: The purpose of this nutrition conference is to provide an opportunity for learning about the teaching of nutrition with the goal of improving daily nutrition practices of individuals.

Audience: Presentations will be particularly geared for people having a responsibility or concern for nutrition education such as:

Teachers K-12
School Food Service Personnel
Extension Personnel
School or Public Health Nurses

Others interested in the program are welcome to attend. No academic background in nutrition is necessary.

TUESDAY, JUNE 10, 1975

Registration: 11:00 A.M. to 1:30 P.M.

Ronald M. Deutsh, Director,
National Nutrition Exchange
Laguna Beach, California
Author Lecturer and Educator

Author of numerous books and articles (over 300), Ronald Deutsch has become nationally prominent in the field of public health and nutrition. For more than 20 years, he has been a contributor to such national magazines as The Readers Digest, Saturday Evening Post, Redbook, The Ladies' Home Journal and a score of others. In nutrition, he has authored two books which have been both popular best sellers and classroom texts; "The Nuts Among the Berries" (1961) and "The Family Guide to Better Food and Better Health" (1971).

"Nutrition 1-2-3"

EXTRAORDINARY PROGRAM COSTS

Exclusive of board and housing all extraordinary program costs will be underwritten by:

American Dairy Association of Montana

Montana Beef Council

WEDNESDAY, JUNE 11, 1975

George V. Mann, M.D.
Associate Professor of Medicine
Vanderbilt University
Nashville, Tennessee

A prestiguous background of scientific journals and publications to his credit, as well as maintaining membership in most of the principal scientific associations in medicine and related areas, eminently qualifies Dr. Mann to examine Cholesteremia and its relationship with diet. Chronologically, Dr. Mann has been involved in an executive position with such diverse nutritional activities as the Framingham Study (1955-58); Studies of Alaskan Eskimo (1958-60); Pigmy Study (1960); Masai Studies, Tanzania (1962-74). Currently Dr. Mann is also serving as Associate Professor of Biochemistry at Vanderbilt.

"Cholesteremia"

Nancy R. West, Past President
Nutrition Council of Arizona
Phoenix, Arizona
Educator in the Field of Nutrition

Mrs. West has participated for some years in various workshops and seminars throughout the country, as well as being a participent (1969) in the "White House Conference on Foods, Nutrition and Health". She has also served in Arizona, as a driving force in uniting the nutritionally oriented professionals into one cohesive unit, the "Nutrition Council of Arizona." Aside from numerous other awards, Mrs. West was cited for her expertise in the field of nutrition, becoming a recipient (1969) and named to "Personalities of the West and Mid-West".

"Behavioral Objectives-Goals in Nutrition Education"

Myron Winick, M.D., Director,
Institute of Human Nutrition
Columbia University College
of Physicians and Surgeons
New York, New York

Dr. Winick's current position at Columbia University and his former position as Professor of Pediatrics and Nutrition at Cornell University Medical College, are only indicative of a very distinguished career. Recipient of the E. Mead Johnson Award in Pediatric Research (1970), contributor to a number of scientific publications, author of over 80 scientific articles, editor of a series of books entitled "Current Concepts in Nutrition", only serves additional notice of his innumerable scientific accomplishments. His expertise in the field of malnutrition and brain development has world wide recognition.

"The Vital Effect of Nutrition on the Development and Growth of Children"

THURSDAY, JUNE 12, 1975

Philip A. Lofgren, Ph.D.
Assistant Director of Nutrition
Research
National Dairy Council
Chicago, Illinois

Extensive research activities at Cornell University, culminated for Dr. Lofgren with his Ph.D. in Nutrition. From Cornell, he expanded his research in post-doctorate work at the University of California, Berkeley. Much of his time was spent at the Western Regional Research Laboratory-ARS-USDA in Albany, California. Currently, Dr. Lofgren's primary responsibility with the National Dairy Council, is to assist with the Grant-in-Aid Program which supports research activities on nutritional problems to various Colleges and Universities, which are relevant to needs of the dairy industry.

"Nutrition Labeling"

U.S. FOOD AND DRUG ADMINSTRATION FILM

"Read the Label—Set a Better Table"
Starring—Dick VanDyke

CLOSURE: 1. Evaluation of Workshop.
2. Distribution of Educational Resource Materials

SPONSORS

The State Department of Public Instruction, the Cooperative Extension Service of Montana State University and the University of Montana, in cooperation with American Dairy Association of Montana, the Montana Beef Council and other cooperating organizations and agencies.

NUTRITION CONFERENCE COMMITTEE

Dr. Andrea Pagenkopf,
Nutrition Consultant
Cooperative Extension Service
Montana State University
Bozeman, MT 59715
Mrs. Sara Steensland
Chairman, Home Economics Dept.
University of Montana
Missoula, MT 59801

Co-Chairwomen

MEMBERS

Mrs. Jean L. Hansen, Past President,
Montana Dietetic Association
Billings, MT 59101
Miss Connie Johnson, Nutrition Consultant,
State Dept. of Health and Environmental Sciences
Helena, MT. 59601
Miss Flora Martin, Food Service Office,
State Department of Public Instruction
Helena, Mt. 59601
Miss Evelyn Johnson, Food Service Lodge,
University of Montana
Missoula, MT 59801
Mrs. Ann Ferguson, Liaison Officer,
State Department of Public Instruction
Helena, MT 59601
Mr. Sherrel Davis, Food Services Director,
School District #1
Missoula, MT 59801

SPECIAL CONSULTANT

Mrs. Nancy R. West, Past President,
Nutrition Council of Arizona
Phoenix, Arizona 35018

ASSOCIATE MEMBERS

Mr. Mons L. Teigen, Treasurer,
Montana Beef Council
Helena, MT 59601
Mr. C. Marlin Buxton, State Manager
American Dairy Association of MT
Butte, MT 59701

copy of the Proceedings of the Conference. A registration form is included in this brochure. Please detach and fill it out and forward with your registration fee in the envelope enclosed. Make all checks or M.O. payable to: Evelyn Peterson, Lodge Food Service, University of Montana, Missoula 59801. Deadline for pre-registration is May 15. Registration at the conference will take place between 11 a.m. and 1:30 p.m. on June 10.

Credit: One academic credit is available for attending the conference for those who wish to register with the University. Contact Sara Steensland, Department of Home Economics, University of Montana, Missoula 59801.

Continuing education credit will be available for dietitians and nutritionists in the amount of 13 hours.

Credit for Professional Improvement will be available to members of the American Home Economics Association.

Housing: Housing will not be available on campus. Listed below in alphabetical order is a partial listing of Missoula motels and hotels. Reservations should be made directly with the motel or hotel.

*Bel Aire Motel	300 E. Broadway	543-3183
Brownies Deluxe Motel	1540 W. Broadway	543-8122
*Canyon Motel	1015 E. Broadway	543-4069
*City Center Motel	338 E. Broadway	543-3193
Colonial Motel	1410 W. Broadway	549-3188
*Downtown Motel	502 E. Broadway	549-5191
*Executive Motor Inn	201 E. Main	543-7221
*Florence Motor Inn	111 N. Higgins Ave.	543-6631
Holiday Inn	Highway 10 W. & Mullan Rd.	543-7231
*Lodge Motel	620 E. Broadway	549-2387
Parkway Motel	430 W. Front	549-2331
*Ponderosa Lodge	800 E. Broadway	543-3102
Red Lion Motor Inn	700 W. Broadway	728-3300
Royal Motel	338 Washington	542-2184
Stewart Motor Inn	3530 Brooks	728-5050
*Sunrise Motel	701 E. Broadway	549-5119
*Thunderbird Motel	1009 E. Broadway	543-7251
*Trade Winds Motel	744 E. Broadway	549-5134
Travelodge	420 W. Broadway	728-4500
Uptown Motel	329 Woody	549-5141
*Village Motor Inn	100 Madison	728-3100

*Accommodations nearest to University.

— Pre-Registration Deadline May 15, 1975 —

(Please Print or Type)

NAME__________ ADDRESS__________ (Street or Box #) City State (Zip)

TELEPHONE__________ (School-Business-Other) (Residence)

Area of Interest: (Please Check One)

_____Teacher _____School Food Service _____Other (please specify below)

_____Extension _____School or Public Health Nurse __________

Enclosed is the $15 registration fee: _____Check _____Money Order

Note: Please make all checks payable to Evelyn Peterson, Lodge Food Service, University of Montana, and forward i the envelope enclosed.

APPENDIX V

Page

Teacher developed lesson plans in Nutrition Education. 128

Student-written Type A Menus 164

NUTRITION
Basic 4 and Food Selection

Grade 5

Kathy Stetzner
Nutrition Education Workshop
June 12-13, 1975

INTRODUCTION

This unit will be taught to a fifth grade class that is mainly 10 year olds. It will be taught continuously throughout the school year not as a particular unit. Two hours a week will be allowed for nutrition. Previous preparation will include copying on transparencies for the overhead projector, the following information: "Food Scoreboard", "Scoreboard for Better Eating", "Nutrition Scoreboard" and "What's for Breakfast". Materials and equipment to collect in advance are these: local newspaper (one per student), overhead projector, empty cans, labels, materials for simulation of a store, games, pamphlets and actual food used by the astronauts.

I. GENERALIZATION: Students will be reinforced in how to select nutritive foods independently. They will know how to make these nutritive choices.

A. BEHAVIORAL OBJECTIVE: Students will identify the Basic 4 food groups and its value and relationship to proper nutritional planning.

SUGGESTED ACTIVITIES:

1. Students will play "Four Food Groups for Better Meals" game.
2. Students will participate in a "Nutritional Bee".

B. BEHAVIORAL OBJECTIVE: Students will know how to budget while shopping and will be able to help their parent(s) in food selection.

SUGGESTED ACTIVITY:

1. Students will use posters to illustrate bargain food shopping and its relationship to good nutrition will be made.

C. BEHAVIORAL OBJECTIVE: Students will know how to read nutritional information required on labels of enriched or fortified foods.

SUGGESTED ACTIVITIES:

1. Students will collect food labels.
2. Students will have a group discussion on food labeling.

D. BEHAVIORAL OBJECTIVE: Students will be able to choose foods for the best nutritional value.

SUGGESTED ACTIVITIES:

1. Compare nutritive and non-nutritive snacks.
2. Set-up a simulated lunch line.
3. Students will make a nutritive food scrapbook.

E. BEHAVIORAL OBJECTIVE: Students will be able to compare prices to acquire the best nutritional foods for their money.

SUGGESTED ACTIVITIES:

1. Students will experience a "taste-in" using canned, fresh and processed foods for comparisons.
2. Students will read the food advertisements in the local newspaper and compare prices.
3. Students will take field trips to local markets.
4. Students will list the best food buys.

F. BEHAVIORAL OBJECTIVE: Student will be capable of food selections for a balanced diet.

SUGGESTED ACTIVITY:

1. Packages of dehydrated foods like the astronauts ate will be discussed and analyzed.

PRE and POST TEST

Circle the correct answer.

1. Labels are important because:
   a. you are able to tell what you are eating.
   b. they give the nutritive value of the item.
   c. they give the brand name of the product.

2. In food shopping
    a. pricing is not important.
    b. it doesn't matter how much you pay for each item.
    c. it is unwise to budget.

3. Snacks are good if
    a. you eat small portions as often as you like.
    b. you like sweets before you eat.
    c. you choose foods with nutritive value.

4. The Basic 4 food groups are
    a. meat, fruits, vegetables, dairy.
    b. fruits, vegetables, breads, cereals.
    c. dairy, fruits and vegetables, meats, breads and cereals.

5. Which type of milk contains the most fat
    a. whole milk.
    b. skim milk.
    c. 2% milk.

6. It is usually cheaper to buy potatoes in
    a. winter.
    b. late summer.
    c. early spring.

7. Which item is highest in nutritional value
    a. Mars bar.
    b. peanuts.
    c. Snickers.

8. At your age
    a. it is important to have a balanced diet.
    b. it isn't important to have a balanced diet.
    c. it isn't important to have a balanced diet as it will be when you are an adult.

9. When dieting you
    a. need food from all four food groups.
    b. should eat from at least one food group.
    c. should not worry about the Basic 4 food groups.

10. Protein is found
    a. in some areas of your body.
    b. in small amounts in your body.
    c. in every tissue in your body.

11. Nutrients we get in our food come from
    a. plants.
    b. plants and animals.
    c. animals.

12. You can find out what is contained in canned goods by
    - a. opening the can and tasting the food.
    - b. reading the label.
    - c. asking your parent(s).

13. Enriched foods mean they have
    - a. nutrients added.
    - b. high in fat content.
    - c. it is just a package label given to certain foods.

14. Calcium builds
    - a. muscles
    - b. body tissue
    - c. strong bones and teeth.

BIBLIOGRAPHY

"Food Scoreboard", Michael Jacobson, Center for Science in the Public Interest, 1974.

"Scoreboard for Better Eating", Jacobson, 1974.

"Nutrition Scoreboard", Instructor, August 1971.

"What's for Breakfast", Instructor, August 1971.

"Food Needs for Man in Space", Space Education Division, Ames Research Center, N.A.S.A., Moffitt Field, California.

"Skylab Food System", Space Education Division, Ames Research Center, N.A.S.A., Moffitt Field, California.

NUTRITION UNIT

Grade 8

Linda Fochs
Nutrition Education Workshop
June 12-13, 1975

INTRODUCTION

This four week unit is planned to introduce nutrition to an eighth grade class. Each topic will be presented very generally so as not to bore this age group.

A 55 minute class period will allow time for filmstrips, displays, lab work, discussions, reports, tasting parties and any other innovations necessary to provide learning opportunities.

The special equipment and supplies needed for this unit are as follows: charts, flip cards, filmstrips, health foods, Bingo cards, daily four food guides, food labels, RDA tables, speakers, snacks for a tasting party and popular diets now on the market.

The information provided in this unit will help the student become aware of the importance of nutrition in everyday living. By placing the student in command of their own food needs and eating habits, their interests will become more activity stimulated. Through experiences the students will realize that "you are what you eat".

I. GENERALIZATION: To provide a healthy body a variety of nutrients are necessary through a well balanced diet.

  A. BEHAVIORAL OBJECTIVE: Students will be able to list and to give general functions of six classes of nutrients.

    SUGGESTED ACTIVITIES:

    1. Discuss nutrients supplying energy necessary for growth: proteins, carbohydrates and fats.

2. Discuss vitamins, minerals and water.
3. Conduct tests for protein, fat and starch.
4. By using a bone or whole egg with shell, discover the importance of calcium.
5. By using several food pictures, identify good sources of the six nutrients.

B. BEHAVIORAL OBJECTIVE: Students will recognize the many kinds and combinations of food necessary for a well balanced diet by using a daily food guide.

SUGGESTED ACTIVITIES:

1. Students will keep a record of their food intake for a few days and evaluate intake for good nutrition.
2. Students will collect and evaluate labels.
3. Students will build a food mobile, using foods of the Basic 4.
4. Students will discuss daily requirements and learn to use RDA nutrient tables.
5. Students will plan and prepare a nutritious breakfast.

II. GENERALIZATION: All nutrients found in foods have an effect on ones growth, development and energy.

A. BEHAVIORAL OBJECTIVE: Students will understand that specific nutrients are necessary for various body parts. Students will be able to list these nutrients needed for each of the following: bones and teeth; skin, eyes and all cells; blood cells; gums and thyroid gland.

SUGGESTED ACTIVITIES:

1. Invite a dentist and doctor to the class to discuss nutrition.
2. Discuss specific nutrients found in various foods for each of the above.
3. Discuss FDA labeling of supermarket foods.
4. Students will be able to make substitutes for familiar foods by using RDA tables.

B. BEHAVIORAL OBJECTIVE: Students will be able to list factors causing underweight or overweight conditions.

SUGGESTED ACTIVITIES:

1. Discuss balance between food consumed and energy expended.
2. Discuss situations (emotional or social) that will influence ones eating habits.
3. Discuss and prepare a tasting party of snacks.
4. Have students keep a record of all food consumed in one day and the time of all activities completed within the same day. Students will calculate calories consumed and expanded.
5. Discuss exercising and have students demonstrate exercises for various parts of the body.

C. BEHAVIORAL OBJECTIVE: Students will be able to recognize fallacies of various food fads and diets.

SUGGESTED ACTIVITIES:

1. Discuss the useage of health foods and set up a small display of common health foods.
2. Low carbohydrate and high protein diets will be discussed.

Students will read through the diets and discuss them.

3. Students will be assigned to make a list of different vitamins found in a drug store. These will be discussed by a pharmacist.
4. Discuss the useage and purpose of food additives.

Nutrition Ed.
8th Grade H.Ec.
July 28, 1975
Name ____________________

PRE and POST TEST

Match the nutrients in the left column with the best food choice in the right column. Circle the correct answer.

1. Protein
   1. potatoes
   2. meat
   3. carrots
2. Fats
   1. celery
   2. bread
   3. butter
3. Carbohydrates or starches
   1. toast
   2. eggs
   3. lettuce
4. Calcium
   1. chicken
   2. milk
   3. green peas
5. Iron
   1. pork
   2. corn
   3. liver
6. Vitamin A
   1. apples
   2. green and leafy vegetables
   3. raisins
7. Vitamin C
   1. orange juice
   2. cake
   3. cabbage
8. B vitamins
   1. green beans
   2. plums
   3. meats

Match the statement in the left column with the phrase in the right column which makes the truest sentence. Circle the correct answer.

1. Obesity is caused by
    1. social pressures
    2. emotional problems
    3. all of the above
    4. none of the above

2. Good teeth are influenced by
    1. crunchy snacks
    2. balanced diet
    3. proper dental care
    4. all of the above

3. A recommended method for a small amount of weight loss is
    1. to reduce amount of food eaten
    2. to not eat for a day or two
    3. to skip two meals a day
    4. to go on a crash diet

4. All persons need the same nutrients throughout life, but in varing amounts. The amount of nutrients needed are influenced by
    1. the color of ones skin
    2. ones age
    3. ones likes and dislikes
    4. none of the above

5. The Basic 4 food groups consist of
    1. meat group, cheese group, fruit group and vegetable group
    2. milk group, bread group, fat group and vegetable group
    3. fruit and vegetable group, bread group, milk group and meat group
    4. bread group, cereal group, meat group and fruit and vegetable group

6. Proper dieting involves
    1. use of reducing pills and candies
    2. eating specific food items
    3. drinking mainly liquids
    4. eating a balance of foods

TRUE - FALSE: Place a (T) before true statements and (F) before false statements.

1. ______ A calorie is not a nutrient.

2. ______ When dieting, you should not eat foods from all four food groups.

3. ______ The nutrition information on the new label should help consumers substitute less expensive foods for higher priced products.

4. ______ Enriched or fortified food must have labels which present "nutritional information" as well as ingredients.

5. ______ About 1/2 to 2/3 of the body is made up of water.

6. ______ Ascorbic acid is the same as B vitamins.

7. ______ Carbohydrates, proteins and vitamins provide energy necessary for growth, maintenance and activity of the body.

8. ______ An example of a complete protein is meat.

9. ______ Vitamins and minerals are lost from our foods by undercooking.

10. ______ Carbohydrates come in foods that are sugary and starchy.

BIBLIOGRAPHY

BOOKS:

"Foods, Diet and Nutrition", 2nd ed.; Jones, Shainberg & Byer; Canfield Press, Harper & Row Publishers, 1368 Lincoln Ave., San Rafael, CA 94901, 1975.

"Help! My Child Won't Eat Right", Antoinette K. Hatfield, Peggy S. Stanton; Acropolis Books Ltd., 2400 17th Street NW, Washington, D.C. 20009, 1973.

"Nutrition for Today", Slater R. Alfin, L. Aftergood; Wm. C. Brown Co., Publishers; 2460 Karper Blvd., Dubuque, Iowa 52001, 1973.

"Nutrition in Action", Ethel A. Martin, 3rd ed.; Holt, Rinehart & Winston, Inc.; 383 Madison Ave., New York, New York 10012, 1971.

BOOKLETS:

"Activity Fun with Foods", American School Food Service Association; 4101 East Iliff, Denver, Colorado 80222, 1970.

"How Your Body Uses Food", Albert Piltz, National Dairy Council, 1111 North Canal Street, Chicago, Illinois 60606, rev. 1973. (charge)

"Food is More Than Just Something to Eat", USDA and HEW in cooperation with the Grocery Manufactures of America and the Advertising Council.

"Nutritive Value of Foods", Home and Garden Bulletin, No. 72, USDA.

"See the Facts About the Foods You Eat", Cereal Institute, Inc.; 135 South LaSalle Street, Chicago, Illinois 60603.

FILMS and FILMSTRIPS:

"Nutrition - What's In It for You", J.C. Penny Co.,Inc.; Educational Relations Dept., 1301 Ave. of the Americas, New York, New York 10019, 1974. (borrow or purchase $14.25)

The three films listed below are from the Montana State Audiovisual Library, Office of the Superintendent of Public Instruction, Helena, MT 59601.

5390	"Four Food Groups"	11 min.	1963	grades 7-12	color
7616	"Food, Energy and You"	20 min.	1972	grades 4-9	color
7618	"Vitamins from Food"	20 min.	1972	grades 4-9	color

The six films listed below are from the State Department of Health and Environmental Science, Health Education Bureau, Helena, Montana 59601.

"Teeth are to Keep"	11 min.	color
"Food: Fads and Fact"	17 min.	color
"Your Food: Chance or Choice"	13 min.	color
"How Food Becomes You"		color
"Natural Foods: Good, Bad"	18 min.	color
"Too Much of a Good Thing"	17 min.	color

POSTERS:

"The Big Four Daily Countdown", Del Monte Teaching Aids (free).

"Nutrients and Foods for Health", USDA, FNS, Washington, D.C.

MISCELLANEOUS:

"The Four Food Groups for Better Meals" game, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (purchase $3.95)

INTRODUCTION to the WORLD of FOOD
Identify and Classify Foods

Grade K

Elaine D. Kemmis
Nutrition Education Workshop
June 12-13, 1975

INTRODUCTION

Five year olds already know about food. They eat some every day but now they are developmentally ready to identify and classify objects, in this case food. They need to learn more about it and how it relates to their daily lives. They are also more capable of learning more beneficial nutritional habits.

Prepare for the unit by ordering the filmstrips listed in the bibliography. Also, make arrangements with the school food manager/cook to use the school kitchen for some meal preparation. Make these teaching aids: cut out and mount food pictures, collect books and posters about good foods and eating, make reprints of Mr. Spoony, Miss Forky and Mr. Knife and paper plate cut-outs.

A. BEHAVIORAL OBJECTIVE: Student will partake of a better balanced diet.

SUGGESTED ACTIVITIES:

1. Hang a variety of colorful and eye-catching posters, both humorous and otherwise.
2. Have food related books on display in the library corner.
3. Make "Lotto" game with pictures, food cards and food puzzles so they are available on the activities table.
4. Make flannel board food cut-outs and puppets. Place them by the puppet theater and the flannel board.
5. Show the filmstrip "Learning About Food". Show it again and allow the class to explain what is happening in the movie. Review questions at the end of the film and discuss them briefly.
6. Show pictures of well-fed animals and people. Also show pictures of animals and people who are not well-fed. Discuss reasons for the differences.
7. Show the Walt Disney filmstrips. Then discuss the body, use of food as fuel and physical fitness.

8. Student who desires to do so may color large utensils (Spoony, Forky and Knife).

B. BEHAVIORAL OBJECTIVE: Student should eat nutritious foods which have been previously avoided.

SUGGESTED ACTIVITY:

1. Have large scale models of fruits, vegetables and other foodstuffs available in the family living corner.

C. BEHAVIORAL OBJECTIVE: Students will be able to correlate a minimum number of foods with the food groups.

SUGGESTED ACTIVITY:

1. Discuss food group posters on the wall. Hand out reprint of the Basic 4 to go home. Hold up flash cards and food items to give students practice in placing foods into food groups and visual discrimination.

D. BEHAVIORAL OBJECTIVE: Students will be able to identify some significant cariogenic foods.

SUGGESTED ACTIVITY:

1. Have a dentist or dental hygenist (through the Career Education Program) visit the class to talk about brushing teeth, eating habits and foods which help prevent tooth decay.

E. BEHAVIORAL OBJECTIVE: Student will be able to distinguish nutritious and non-nutritious foods.

SUGGESTED ACTIVITY:

1. After a discussion of good foods and non-nutritious foods, have the students cut out and paste pictures from magazines of nutritious foods on paper plates to go home.

PRE and POST TEST

There will be separate, simple tests for each behavioral objective. These will be given before any instruction begins.

1. Array pictures of foods on a table. Give each student a paper plate. Ask students to take a meals worth of food that is good for them. Rate each students plate for balance on a scale from 1-10.
2. Give each student a plateful of food including several items that the student often avoids. After the meal take an inventory of the leftovers on each students labeled plate. Rate his performance on a scale from 1-10.
3. Seat each student before 12 pictures of individual food items, three from each of the Basic 4 food groups. Give the student 10 instructions in the following form: pick a fruit, pick a vegetable, etc. Remove from the table the item selected by the student. Score one(1) point for each correct answer.
4. Present each student successively with 10 pairs of caragenic and non-caragenic foods. With each pair direct the student to pick either the food that is best or worst for their teeth. Score one(1) point for each correct answer.
5. The mechanics of this test are the same as No. 4 except that the choice is between nutritious and non-nutritious foods.

BIBLIOGRAPHY

FILMSTRIPS:

"This is You", Walt Disney, Encyclopedia Britannica Educational Corp.

"The Living Machine", Walt Disney, Encyclopedia Britannica Educational Corp.

"Learning About Food" from Learning About Health series, Encyclopedia Britannica Educational Corp.

"Mr. Knife, Mr. Spoony and Miss Forky" dittos, School Food Services, Office of the Superintendent of Public Instruction, State Capitol, Helena, Montana 59601.

BOOKS:

"Visual Aids in Nutrition Education", Alan C. Holmes, Food and Agricultural Organization of the United Nations, Rome, Italy, 1968.

"Teaching Nutrition", Mattie Pattison and Helen Barbour, Iowa State University Press, Ames, Iowa, 1963.

"Teaching Better Nutrition; A Study of Approaches and Techniques", Jean Ritchie, Food and Agricultural Organization of the United Nations, Rome, Italy, 1950.

NUTRITION UNIT
Basic 4

Grade 3

Ruthann Kortum
Nutrition Education Workshop
June 12-13, 1975

I. GENERALIZATION: You need to eat food to stay healthy and well, to get energy for work and play and to help you grow up in a way that is right for you. There are recommended daily servings for each of the four food groups.

A. BEHAVIORAL OBJECTIVE: Each student will list the Basic 4 food groups.

SUGGESTED ACTIVITIES:

1. Field trips can be made to the Associated Food Store warehouse. Emphasis of the trip can be on the variety of food products available. Students can see how different foods are transported to the store.
2. Visit a bakery. Background will be established through discussion, a science unit on plants and observation of sprouting different plants.
3. Make murals of food groups that include the growing and transportation of foods.

B. BEHAVIORAL OBJECTIVE: Students will illustrate three(3) foods in each of the four food groups.

SUGGESTED ACTIVITIES:

1. Make a food guide using magazine pictures on a classroom bulletin board.
2. Make food booklets using pictures, write poems, etc.

C. BEHAVIORAL OBJECTIVE: Each student will chart their daily meals for one(1) day to see how their nutritional needs are being met. (Individual records are kept confidential.) Compare their charts to the food guide.

SUGGESTED ACTIVITIES:

1. Have a sack lunch party and decide if it is well balanced.
2. Ask the school food manager/cook visit the class and discuss food

and a proper diet.

3. Make placemats using pictures to show a balanced meal. Use the placemats and clean hands when having birthday treats.

II. GENERALIZATION: Regular meal times are important because they give us energy to do our work.

A. BEHAVIORAL OBJECTIVE: Each child should eat breakfast.

SUGGESTED ACTIVITIES:

1. Discuss the importance of breakfast.
2. Plan a well balanced breakfast. Work with the students and the school food manager/cook to plan a breakfast at school.

III. GENERALIZATION: Eating habits may change as we learn to eat different foods.

A. BEHAVIORAL OBJECTIVE: Each student will sample three(3) fruits or vegetables.

SUGGESTED ACTIVITIES:

1. Plan a tasting party. Foods can be brought from home, purchased by the teacher or provided by the school food service. The students will wash their hands thoroughly and help to prepare and display the foods. Foods to include are a section of: turnips, carrots, parsnips, green pepper, cauliflower, celery, papaya, avocado, mango, pomegranate, apple and orange. Taste all raw.
2. Social studies and literature can be coordinated with the tasting party. Maps can be used to show where various foods are grown. Greek mythology can be used when discussing pomegranates.

B. BEHAVIORAL OBJECTIVE: Each student will describe and illustrate a food they like. This should include how it is prepared.

SUGGESTED ACTIVITY:

1. As an art lesson use the fruits and vegetables for a "still life" Painting. Especially discuss the appearance of each.

PRE and POST TEST

After each statement write the correct answer, yes or no .

1. You should try to drink two or three cups of milk each day. ________
2. You can get some of the milk you need by eating such foods as cheese and ice cream. ________
3. One of the four important food groups is this: soft drinks and candy. _____
4. You should try to eat a dark green or deep yellow vegetable at least three or four times a week. ________
5. All families eat foods cooked the same way. ________
6. There is more than one way to serve such foods as vegetables, fruits, milk drinks and eggs. ________
7. We like foods only because they look pretty. ________
8. When you are served a food you have never eaten before, a good thing to do is taste it. ________
9. Eating enough of the right kinds of foods helps you keep healthy and well. ________
10. The four important food groups are milk, vegetables and fruits, meat, bread and cereals. ________

BIBLIOGRAPHY and TEACHING AIDS

FILMSTRIPS and FILM:

"How the City is Fed", IMC, F-82

"The Bakery", IMC, G-25

"Bread", IMC, F-83

"Greedy Grace", IMC, K-28

"Mulligan Stew" (film), Cooperative Extension Service, Montana State University, Bozeman, Montana 59715.

KITS:

"If You Think Breakfast is for the Birds...", Cereal Institute, Inc., 135 South LaSalle Street, Chicago, Illinois 60603.

"It's Always Breakfast Time Somewhere" (booklet, chart, food models), National Dairy Council, 111 North Canal Street, Chicago, Illinois 60606

"Alexander's Breakfast Secret" (filmstrip with records)

"Meal Planning and Food Service", Next Step program.

BOOKLETS:

"Why Eat a Good Breakfast", Cereal Institute, Inc., 135 South LaSalle Street, Chicago, Illinois 60603.

"Nutrition Education K-6 Curriculum Guide", School Food Services, Office of the Superintendent of Public Instruction, State Capitol, Helena, Montana 59601.

"Discovering Vegetables", U.S. Department of Agriculture, Food and Nutrition Services, Washington, D.C.

MISCELLANEOUS:

Health and Growth (book)No. 3, Scott, Foreman and Co., pgs. 116-131.

"Food to Grow on", National Livestock and Meat Board, 407 South Dearborn Street, Chicago 5, Illinois.

"Big Four Daily Countdown" (wall chart), Del Monte Education Office, P.O.Box 361, Maple Plain, Minnesota 55359 (charge).

"Breakfast game", Kellog (free).

ADJECTIVES - YUM YUM YUM!
Creative Writing Unit

Grades 4-6

Nicki Edington
Nutrition Education Workshop
June 12-13, 1975

INTRODUCTION

An exciting and unusual way to demonstrate the wide variety of adjectives available to a student. It is a way to help the student realize the value of adjectives in good, descriptive writing and speech. This unit could be easily adapted to include or isolate a study of adverbs. Sessions are 40 minutes long.

A. BEHAVIORAL OBJECTIVE: Each student will be able to describe objects vividly and accurately using adjectives.

SUGGESTED ACTIVITIES:

1. Purchase at a grocery store a variety of fresh fruits and vegetables. If a fruit or vegetable is small buy enough so at least 15 to 20 small pieces can be prepared from each one. It is also possible to get the food items through the local school food kitchen. Select foods for color variety, some unfamiliar, high vitamin content, etc. The fruits and vegetables, once selected, are to be divided into two groups for two different activities. The foods can be divided in any manner but should try to get a variety of colors, textures, tastes and vitamin content in each group. Refrigerate until ready to use so original texture and freshness is maintained.
2. Discuss "what is an adjective?"
3. Describe the first group of vegetables. Discuss where each of the foods are grown. Involve everyone!
4. Using the same fruits and vegetables distribute them so that there is a food for each one to three students. Students should wash their hands and the food in the proper manner. Then they are to cut the fruit or vegetable into small bite-size sections on their plastic wrap covered desk. Then arrange all the pieces on a large tray and bring to their attention the use of an attractive arrangement. Each student collects a

bite of everything desired. The class then tastes together, if possible, naming adjectives that describe taste and texture. Add these to their master lists. It must be noted that every student must not be forced to taste every food if he does not desire to do so.

5. Cover the labels on the master lists (from the previous session). By reading the adjectives the students should be able to name the fruit or vegetable. Present a second group of foods with half sheets of construction paper. Ask each student to make their own list of adjectives for each food without using a name label. Make the list for each food on a separate half sheet of paper. Pass the objects around to be felt and examined.
6. Have a "silent" tasting session with each student completing their lists. Extra pieces can be cut and arranged on a tray then taken to the teachers lounge or another class, perhaps a younger group of students. The best list of adjectives for each item can be selected to accompany the tray and be displayed. Prior to selecting the best list, all of the desriptions can be passed among the students and the fruits and vegetables identified by their adjectives. The students should select the best lists.
7. Students should write an article describing a trip with a parent through the produce section of a grocery store. It may be realistic or imaginary.
8. Create a collage using cut out magazine pictures of fruits and vegetables.
9. Draw and describe a "still life" of one or more fruits or vegetables.
10. Have a small group of students make a play of an especially creative or imaginative story.
11. Use one of the many word games mentioned in the Montana State University newsletter.

B. BEHAVIORAL OBJECTIVE· Each student will be able to identify a leading nutrient in each of the foods tasted, touched and described.

SUGGESTED ACTIVITIES:

1. List adjectives for each fruit or vegetable telling color, size, shape and feel. Include in the list the leading nutrients found in each food using "Nutritional Value of Foods" booklet.

PRE and POST TEST

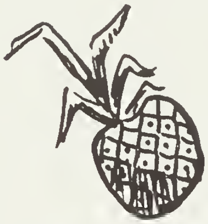
Match the appropriate adjectives with the line drawn picture of a fruit or vegetable. Fill in the name of the food pictured (correctly spelled) and a leading nutrient found in that food.

Example:

red, solid, crisp

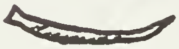
yellow, sweet, juicy

green, long, thin



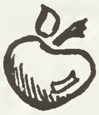
____

____



____

____



____

____

(Since creative writing is a very individualized subject and difficult to evaluate with facts, the teacher should not use a test of the above nature to conclude entirely whether or not a student grasps the practical use of adjectives. In addition as a pretest, show the students a food and ask them to describe as best as possible. As a posttest use the same food and have the student and the teacher compare each of the descriptions to determine their effective use of adjectives.

BIBLIOGRAPHY

"Nutritive Values of Food" booklet, Home and Garden Bulletin No. 72, U.S. Department of Agriculture, Washington, D.C.

"Discovering Vegetables", U.S. Department of Agriculture, Food and Nutrition Service, Washinton, D.C.

"EYHAWTKATNBDKWTA (Everything You Have Always Wanted to Know About Teaching Nutrition but Didn't Know Who to Ask)", School of Home Economics, Montana State University, Bozeman, Montana 59715, 1974-1975.

MATERIALS:

Enough knives for half the students, plastic wrap, large tray, cutting boards, toothpicks, large hanging chart or blackboard, napkins or paper towels, use of a refrigerator, construction paper and crayons or markers.

BASIC NUTRITION

Grades 1-3

Mrs. Marguerite Beatty
Nutrition Education Workshop
June 12-13, 1975

INTRODUCTION

This unit has been developed for a team teaching unit to include grades one through three. These students come from low income families in which meals may not be as nutritious as they should be. We hope to make the students aware of the need for good nutrition and in turn bring some knowledge home. It is hoped that students who fix their own meals often will be made aware of the need to balance the meals and they should acquire the means through which they can be sure their meals are balanced.

Our school has a kitchen which we are able to use quite often. Therefore, cooking and related projects will be the main focus of our unit.

Since I was not able to meet with the other two teachers, the unit is not as complete as I would like it to be. I am sure that as we begin to teach the unit, which is planned for the first quarter of the year, we will add and subtract to it. I am sure that the number of activities will be expanded as will the bibliography and teaching aids.

This is a unit which we feel is needed in our school and I am anxious to see it through. When you receive the completed unit, I am sure it will not resemble this one a great deal.

The main objective of this unit is to provide the students with the understanding that a balanced diet is essential to their health. Since we will be operating within a limited time block, I feel that it is important to concentrate on the Basic 4. This is a concept which is not dealt with in our science or health books and I feel that it is a good point on which to begin a nutrition program. It is my hope that this program will be a stepping stone on which a school-wide nutrition program can be based.

I. GENERALIZATION: Food is necessary for all life. (This will be investigated

through the use of our health and science books. These texts from the D.C. Heath Co. give the student a good background in understanding the need for food as well as providing experiments to discover how various plants and animals obtain their food.

A. BEHAVIORAL OBJECTIVE: Identify the fact that all living things use some kind of food.

SUGGESTED ACTIVITIES:

1. Read about growing plants in science text.
2. Discuss the types of food plants need, how they get food and where they get it.
3. Experiment with at least four plants and vary the food supplies,i.e. one plant will get soil, sun and water while another gets only soil.
4. Read about animals (including people) and their need for food.
5. Make a collage of foods for plants and one for foods of animals or people only.

B. BEHAVIORAL OBJECTIVE: Plants and animals have various ways of getting the food they need.

SUGGESTED ACTIVITIES:

1. Read pertinent information from science books.
2. Have a forest ranger or game management person come to class and discuss how and where animals get their food.
3. Show science slides on animals and their food.

II. GENERALIZATION: There are four basic food groups from which we can build a good diet.

A. BEHAVIORAL OBJECTIVE: Students will be able to identify the Basic 4 food groups.

SUGGESTED ACTIVITIES:

1. Use the "Health Train" to introduce the four food groups.
2. "Good Foods Coloring Book" will be used to expand on the basic groups.
3. Show the film "The Great Food Show" from Kraft.
4. Adapt material from Mulligan Stew to illustrate the groups and do the riddles and puzzles to determine which groups our favorite foods come from.
5. Prepare "No Bake" cookies and pizza from recipes in the booklet Mulligan Stew.
6. Use riddles for common food items - name the food and the group to which it belongs.
7. Visit the milk plant in town.

B. BEHAVIORAL OBJECTIVE: Visiting a grocery store will make the students aware of the need for wisely planned shopping trips.

SUGGESTED ACTIVITY:

1. Go to the store to buy the ingredients for a balanced meal after planning what is needed.

III. GENERALIZATION: Encourage positive food habits by using the 4-4-3-2 serving formula as a guide for the Basic 4.

A. BEHAVIORAL OBJECTIVE: Students will learn and use the 4-4-3-2 formula.

SUGGESTED ACTIVITY:

1. Use the Mulligan Stew comic to present and expand the 4-4-3-2 formula.

B. BEHAVIORAL OBJECTIVE: Students will learn to watch their own diets.

SUGGESTED ACTIVITIES:

1. Make charts for a week or two to see how well our diets adher to

the formula.

2. Discuss how we can work with parents to be sure we are eating properly.

IV. GENERALIZATION: Encourage wise snacking which will keep our teeth and bodies healthy.

A. BEHAVIORAL OBJECTIVE: Students will learn which foods are good snacks and which are not.

SUGGESTED ACTIVITIES:

1. Have a tasting parties to try foods from each of the four food groups and discuss the good snacks.
2. Use Mulligan Stew for recipes for good snacks.

V. GENERALIZATION: Through cooking projects, the students will learn to recognize and try new and familiar fruits, meats, vegetables, cereals and cheeses.

A. BEHAVIORAL OBJECTIVE: Cooking projects will teach buying skills, measuring, timing, planning and enjoyment of new foods.

SUGGESTED ACTIVITIES:

1. Cook a balanced breakfast and lunch after planning for each.
2. Plan balanced dinner menus to take home.
3. Have a cookbook made that contains at least one recipe of each students favorite meal.
4. Use magazine pictures to lay out a balanced meal and make a collage of good snacks.
5. Have the students identify and use the various measuring utensils.
6. Make up a card game on how to follow a recipe step by step.

PRE and POST TEST

Circle the correct answer(s) for the following two(2) questions.

1. Who needs food?
   a. plants
   b. rocks
   c. all living things

2. Which of these ansers help a plant get food?
   a. stems
   b. leaves
   c. mouth
   d. roots
   e. hands

Write in the answer to the following questions.

3. List three things plants need to live.
   a. ____________________
   b. ____________________
   c. ____________________

4. What happens to a plant that has no sun, but has water and soil?
   ____

5. What foods do these animals eat and need?
   a. cow ____________________
   b. bears ____________________
   c. people ____________________

6. Why can animals get their food easier than plants?
   ____

7. List the Basic 4 food groups.
   a. ____________________
   b. ____________________
   c. ____________________
   d. ____________________

8. List a food group for each part of a cheeseburger.
   a. ____________________
   b. ____________________
   c. ____________________
   d. ____________________

9. List some important things we should know before we shop for foods for a meal. ____

10. Write, tell or use pictures to show a balanced breakfast.

11. Write what the 4-4-3-2 formula for a balanced diet means.
    ____
    ____

12. Are candy and pop wise snacks? ____________________

13. What will wise snacking protect? ____________________

14. List three(3) wise snacks. ____________________
____
____

Do the following with the teacher.

15. Use pictures or tell the teacher a days meals that fit the 4-4-3-2 formula.

16. Discuss with the teacher what you ate for breakfast or lunch and which food group each item belongs to.

17. Identify to the teacher specific measuring utensils.

BIBLIOGRAPHY and TEACHING AIDS

Science and Health books series, D.C.Heath Co., 1968.

"Family Guide to Better Food and Better Health", R.M. Deutsch, Meredith Corp., DesMoines, Iowa, 1971.

"Nutrition Education K-6 Curriculum Guide", Office of Superintendent of Public Instruction in conjunction with the Department of Health and Environmental Sciences, State Capitol, Helena, Montana, 1975.

"Everything You Have Always Wanted to Know About Teaching Nutrition but Didn't Know Who to Ask" newsletter, School of Home Economics, Montana State University, Bozeman, Montana, 1974-1975.

"Food is More Than Just Something to Eat" pamphlet, U.S. Department of Agriculture and Department of Health, Education and Welfare, Washington, D.C., 1969.

"Mr. Spoony, Miss Forky and Mr. Knife" dittos, School Food Services, Office of the Superintendent of Public Instruction, State Capitol, Helena, Montana.

"The Health Train" dittos, School Food Services, Office of the Superintendent of Public Instruction, State Capitol, Helena, Montana.

"Good Foods Coloring Book", U.S. Department of Agriculture, Food and Nutrition Service, Washington, D.C., 1973.

"Mulligan Stew" comic book, Cooperative Extension Service, Michigan State University, East Lansing, Michigan.

"Four Food Groups for Better Meals" game, U.S. Department of Agriculture, Food and Nutrition Service, Washington, D.C., 1974.

"Great Food Show" film, Modern Talking Picture Service, Hyde Park, New York, 11040. (14½ min.)

TEACHING AIDS:

Slide projector, movie projector, overhead projector, tape player and recorder, screens, magazines, slides, films, art materials, story books and resource people.

MENUS WRITTEN BY SECOND GRADERS

Second graders were instructed to write menus including one item from each of the following groups: meat, milk, vegetable-fruit, bread-cereal.

Breakfast

Staike
(Steak)

Pianale
(Pineapple)

Corflals
(Cornflakes)

Milk

Ham

Ornch
(Orange)

Rasn Bran
(Raisin Bran)

Chees
(Cheese)

Lunch

Chiken
(Chicken)

Butr
(Butter)

Gel-o
(Jell-O)

Wheat

Hot Dog

Cotty Ches
(Cottage Cheese)

Tmdow
(Tomatoe)

Bread

APPENDIX VI

Page
Nutrition Education K-6 Curriculum Guide. 166

THE NUTRITION EDUCATION K-6 CURRICULUM GUIDE IS BEING REPRINTED. IF YOU DESIRE A COPY, PLEASE REQUEST ONE FROM THIS OFFICE.